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# FARM BUSINESS REPORT . . . 1941

The farmer contributes most to the war effort by efficiently using his land, labor, machinery, and other available resources

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## FARMING-TYPE AREA ONE
## Chicago Dairy Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

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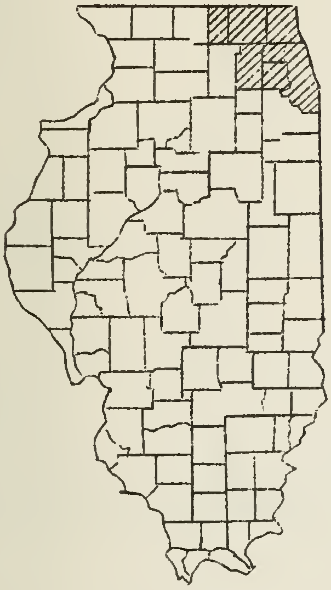
Annual Farm Business Report

# ON EIGHTY-FIVE FARMS IN FARMING-TYPE AREA 1, 1941

By P. E. Johnston, J. B. Cunningham, and W. D. Buddemeier[1]

Farm earnings of accounting farms in Farming-Type Area 1 were much higher in 1941 than in 1940. The average net earnings per acre were $23.89 in 1941, $14.91 in 1940, $10.64 in 1939, and $9.55 in 1938. The items considered in calculating the net earnings included: cash receipts; cash expenses; inventory changes; the value of farm products used in the household; and unpaid family labor. Each of these five items was larger in 1941 than in 1940.



▨ Farming-Type Area 1
Dairy and Truck

Larger incomes from livestock and livestock products were, to a considerable extent, responsible for larger cash receipts in 1941 than in 1940. Although cash expenditures were higher, especially for cattle, feed, and machinery, the total increase in income was greater than the total increase in expenditures; therefore the cash balance showed an increase for 1941.

The accounting farms in this report were larger than the average of all the farms in the area; the crop yields were above average; and the farm operators were more skillful than average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

The averages presented in this report provide a good local yardstick of efficiency. Any farmer keeping farm records can apply this yardstick to his business operations in order to locate the strong and weak places in the management of his farm. The data in Tables 1 to 7 and Figure 1 are particularly well adapted for such a comparison because they contain both measures of earnings and measures of those management factors which are responsible for major variations in farm earnings.

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[1] W. N. Thompson supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm account project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the indicated farm advisers:

J. H. Brock, McHenry County
A. C. Johnson, Kane County
D. M. Chalcraft, Boone County
H. S. Wright, DuPage County
Ray T. Nicholas, Lake County
C. A. Hughes, Cook County

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 1, 1938-1941

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1941 | 1940 | 1939 | 1938 |
| Number of farms- - - - - - - - - - - | -- | 85 | 81 | 87 | 78 |
| Acres per farm - - - - - - - - - - - | | 181 | 180 | 171 | 186 |
| Inventory Changes | | | | | |
| Farm improvements- - - - - - - - - | $ | $ 204 | $ 81 | $ -4 | $ 8 |
| Livestock- - - - - - - - - - - - - | | 845 | 396 | 430 | 87 |
| Feed and grain - - - - - - - - - - | | 962 | 352 | 374 | 299 |
| Machinery and equipment- - - - - | | 363 | 42 | 79 | 198 |
| Automobile (farm share)- - - - - | | 39 | 1 | 8 | -6 |
| Total - - - - - - - - - - - - - | $ | $2 413 | $ 872 | $ 887 | $ 586 |
| Cash Receipts | | | | | |
| Farm improvements- - - - - - - - - | $ | $ 6 | $ 14 | $ 2 | $ 22 |
| Horses - - - - - - - - - - - - - - | | 41 | 53 | 35 | 64 |
| Productive livestock: Cattle - - | | 2 969 | 2 079 | 1 085 | 1 042 |
| Dairy sales | | 3 285 | 2 586 | 2 130 | 2 483 |
| Hogs - - - | | 1 120 | 698 | 492 | 582 |
| Sheep- - - | | 99 | 31 | 86 | 126 |
| Poultry- - | | 91 | 94 | 91 | 79 |
| Egg sales- | | 271 | 205 | 195 | 212 |
| Total productive livestock - - - | ( ) | (7 835) | (5 693) | (4 079) | (4 524 |
| Feed and grain - - - - - - - - - - | | 666 | 532 | 414 | 366 |
| Machinery and equipment- - - - - | | 224 | 181 | 153 | 167 |
| Automobile (farm share)- - - - - | | 35 | 28 | 23 | 10 |
| Labor off farm - - - - - - - - - - | | 30 | 62 | 38 | 30 |
| Miscellaneous- - - - - - - - - - - | | 23 | 7 | 9 | 6 |
| AAA payments - - - - - - - - - - - | | 275 | 282 | 311 | 137 |
| Total- - - - - - - - - - - - - - | $ | $9 135 | $6 852 | $5 064 | $5 326 |
| Cash Expenses | | | | | |
| Farm improvements- - - - - - - - - | $ | $ 626 | $ 421 | $ 289 | $ 322 |
| Horses - - - - - - - - - - - - - - | | 26 | 52 | 40 | 45 |
| Productive livestock: Cattle - - | | 2 030 | 1 255 | 747 | 572 |
| Hogs - - - | | 115 | 46 | 86 | 72 |
| Sheep- - - | | 58 | 34 | 61 | 97 |
| Poultry- - | | 45 | 37 | 37 | 37 |
| Total productive livestock - - - | ( ) | (2 248) | (1 372) | ( 931) | ( 778 |
| Feed and grain - - - - - - - - - - | | 935 | 677 | 517 | 476 |
| Machinery and equipment- - - - - | | 1 375 | 810 | 721 | 883 |
| Automobile (farm share)- - - - - | | 181 | 123 | 110 | 79 |
| Hired labor- - - - - - - - - - - - | | 706 | 523 | 490 | 503 |
| Miscellaneous- - - - - - - - - - - | | 34 | 28 | 34 | 25 |
| Crop expense - - - - - - - - - - - | | 203 | 190 | 178 | 202 |
| Livestock expense- - - - - - - - - | | 103 | 79 | 80 | 80 |
| Taxes- - - - - - - - - - - - - - - | | 270 | 276 | 244 | 252 |
| Total- - - - - - - - - - - - - | $ | $6 707 | $4 551 | $3 634 | $3 645 |
| Summary | | | | | |
| Cash balance - - - - - - - - - - - | $ | $2 428 | $2 301 | $1 430 | $1 681 |
| Farm products used in household- | | 279 | 253 | 241 | 267 |
| Total inventory change - - - - - | | 2 413 | 872 | 887 | 586 |
| Receipts less expenses - - - - - | $ | $5 120 | $3 426 | $2 558 | $2 534 |
| Total unpaid labor - - - - - - - | | 787 | 743 | 740 | 758 |
| Net earnings per farm- - - - - - | $ | $4 333 | $2 683 | $1 818 | $1 776 |
| Net earnings per acre- - - - - - | $ | $23.89 | $14.91 | $10.64 | $ 9.55 |

Inventory changes. The year 1941 was the ninth consecutive year of increasing inventories. The increases during the past four years ranged from $2,413 in 1941 to $586 in 1938 (Table 1). The largest increases in 1941 were for livestock and feed and grain. The average amounts of grain on hand in Area 1 at ~~the~~ two inventory periods were:

| Crop | Beginning of year (bushels) | End of year (bushels) |
|---|---|---|
| Corn | 1 808 | 2 373 |
| Oats | 959 | 965 |
| Wheat | 48 | 34 |
| Soybeans | 66 | 78 |

Summary of cash receipts and cash expenses. Cash receipts exceeded cash expenses in 1941 by $2,428, or by a larger margin than that for any other year during the past four. Cash balance, the difference between cash receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

Although there was no appreciable change in the amount of family labor available, the total valuation of unpaid labor was higher for 1941 than for any other year in the past four. This increase resulted from the fact that the physical labor of the operator and other members of the family was valued at $55 per month in 1941 and at $50 per month in each of the three previous years.

The net earnings per farm averaged $4,333 in 1941 compared with $2,683 in 1940. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding to the cash balance the value of farm products used in the household and the inventory increases and by subtracting from the resulting total the value of unpaid labor. Therefore this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

Variation in farm earnings. A wide variation was found in earnings on the farms in Area 1. For example, 16 farms earned less than ten percent on their investment, with an average rate earned of 7.6 percent; but 32 farms earned sixteen percent or more, with an average rate earned of 19.0 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had $1,304 for labor and management earnings contrasted with $4,563 for the latter group. The variation in earnings and in size of farm for all the records in the area was as follows:

| Rate earned on investment (percent) | Number of farms | Average rate earned (percent) | Acres per farm | Capital invested per farm | Gross earnings per farm | Net earnings per farm | Labor and management earnings |
|---|---|---|---|---|---|---|---|
| Less than 10.00 | 16 | 7.6 | 169 | $30,762 | $5,998 | $2,330 | $1,304 |
| 10.00 to 15.99 | 37 | 13.2 | 197 | 32,882 | 8,199 | 4,352 | 3,300 |
| 16.00 or more | 32 | 19.0 | 170 | 27,939 | 8,750 | 5,312 | 4,563 |

## TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 1, 1941

| Item | Your farm | Standards for your farm | Average of all farms |
|---|---|---|---|
| Rate earned on investment | ______% | 14.2% | 14.2% |
| Number of farms | -- | -- | 85 |
| Acres in farm | ______ | 181 | 181 |
| Acres tillable | ______ | 150 | 150 |
| Acres in crops | ______ | 126 | 126 |
| Gross earnings per acre | $______ | $______ a/ | $42.79 |
| Gross expenses per acre | ______ | ______ | 18.90 |
| Net earnings per acre | $______ | $ | $23.89 |
| Investments | | | |
| Value of land per acre | $______ | $ 78 | $ 78 |
| Value of improved land per acre | ______ | ______ a/ | 81 |
| Value of improvements per acre | ______ | ______ e/ | 38 |
| Total investment per acre | ______ | 169 | 169 |
| Land Use | | | |
| Percent of land area tillable | ______ | ______ a/ | 82.5 |
| Percent of tillable land in: | | | |
| Corn | ______ | ______ | 32.9 |
| Oats | ______ | ______ | 18.8 |
| Wheat | ______ | ______ | 1.1 |
| Soybeans | ______ | ______ | 3.5 |
| Other crops | ______ | ______ | 8.2 |
| Legume hay and pasture | ______ | ______ | 21.4 |
| Nonlegume hay and pasture | | | 14.1 |
| Crop Yields | | | |
| Corn, bu. | ______ | ______ b/ | 70.7 |
| Oats, bu. | ______ | ______ | 56.6 |
| Barley, bu. | | | 40.7 |
| Livestock Factors | | | |
| Value of feed fed to productive livestock | $______ | $3 728 | $3 728 |
| Feed fed per acre to productive livestock | ______ | ______ c/ | 20.55 |
| Returns per $100 worth of feed fed | ______ | ______ | 179 |
| Poultry returns per hen | ______ | 3.44 | 3.44 |
| Number of litters farrowed | ______ | 9.7 | 9.7 |
| Number of pigs weaned per litter | ______ | 6.6 | 6.6 |
| Returns per litter farrowed | $______ | $ 166 | $ 166 |
| Average number of cows milked | ______ | 19.5 | 19.5 |
| Number of cows milked per 100 acres | ______ | 10.8 | 10.8 |
| Dairy returns per cow milked | $______ | $ c/ | $ 173 |
| Expense Factors | | | |
| Horse and machinery cost per crop acre | $______ | $______ d/ | $ 8.46 |
| Labor cost per crop acre | ______ | ______ | 11.59 |
| Total months of labor | ______ | ______ e/ | 24.4 |
| Number of work horses | ______ | ______ | 3.2 |
| Improvement cost per acre | $______ | $______ | $ 2.29 |
| Land tax per acre | | ______ a/ | 1.30 |

Source of Standards:

a/ Table 3, value of improved land.
b/ Fig. 1, value of improved land.
c/ Table 4, source of income.
d/ Table 6, size of farm and number of milk cows per 100 acres.
e/ Table 5, size of farm.

# CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

## Accounting Farms in Farming-Type Area 1, 1941

The numbers above the lines across the middle of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

| | | | Factors that affect the gross earnings | | | | | | | | | | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Crop yields | | | | | | | | | | | |
| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Percent of tillable land in legume hay and pasture | Corn, bu. | Oats, bu. | Barley, bu. | Feed fed per acre to productive l.s. | Returns per $100 feed fed | Poultry returns per hen | Hog returns per litter farrowed | Dairy returns per cow milked | Gross expense per acre | Horse and machinery cost per crop acre | Labor cost per crop acre | Improvement cost per acre |
| 24.2 | 381 | | | | | | | | 5.94 | 241 | | | | | |
| 22.2 | 341 | | | | | | | | 5.44 | 226 | | | | | |
| 20.2 | 301 | | | | | | | | 4.94 | 211 | | | | | |
| 18.2 | 261 | | | | | | | | 4.44 | 196 | | | | | |
| 16.2 | 221 | | | | | | | | 3.94 | 181 | | | | | |
| 14.2 | 181 | | | | | | | | 3.44 | 166 | | | | | |
| 12.2 | 141 | | | | | | | | 2.94 | 151 | | | | | |
| 10.2 | 101 | | | | | | | | 2.44 | 136 | | | | | |
| 8.2 | 61 | | | | | | | | 1.94 | 121 | | | | | |
| 6.2 | -- | | | | | | | | 1.44 | 106 | | | | | |
| 4.2 | -- | | | | | | | | .94 | 91 | | | | | |
| * 2% | 40 | $3 | 2% | 4 | 4 | 3 | $2 | $15 | $.50 | $15 | $10 | $2 | $.50 | $1 | $.50 |

*Each space between lines represents the values indicated at bottom of each column.

### TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 1, 1941

| Item | Value of improved land | | | |
|---|---|---|---|---|
| | Less than $63 | $63 to $77 | $78 to $92 | $93 or more |
| Average value of improved land- - - - - - - | $ 55 | $ 71 | $ 84 | $ 101 |
| Number of farms - - - - - - - - - - - - - - - - | 16 | 19 | 22 | 28 |
| Acres per farm - - - - - - - - - - - - - - - - | 183 | 171 | 187 | 183 |
| Percent of land area tillable - - - - - - - - | 77.2 | 78.5 | 86.3 | 84.9 |
| Percent of tillable land in: | | | | |
| Corn- - - - - - - - - - - - - - - - - - - - - | 29.9 | 32.1 | 31.3 | 36.2 |
| Oats- - - - - - - - - - - - - - - - - - - - - | 17.0 | 17.0 | 20.3 | 19.6 |
| Wheat - - - - - - - - - - - - - - - - - - - - | .5 | 1.5 | 1.0 | 1.6 |
| Soybeans- - - - - - - - - - - - - - - - - - - | 3.1 | 1.8 | 1.3 | 6.7 |
| Other crops - - - - - - - - - - - - - - - - - | 11.1 | 8.5 | 7.9 | 6.0 |
| Legume hay and pasture- - - - - - - - - - - | 24.5 | 22.1 | 22.9 | 19.1 |
| Nonlegume hay and pasture - - - - - - - - - | 13.9 | 17.0 | 15.3 | 10.8 |
| Gross earnings per acre - - - - - - - - - - - | $36.94 | $46.35 | $43.43 | $43.94 |
| Gross expenses per acre - - - - - - - - - - - | 18.46 | 21.32 | 18.00 | 18.92 |
| Net earnings per acre - - - - - - - - - - - - | $18.48 | $25.03 | $25.43 | $25.02 |
| Land tax per acre - - - - - - - - - - - - - - | $ 1.19 | $ 1.31 | $ 1.28 | $ 1.38 |

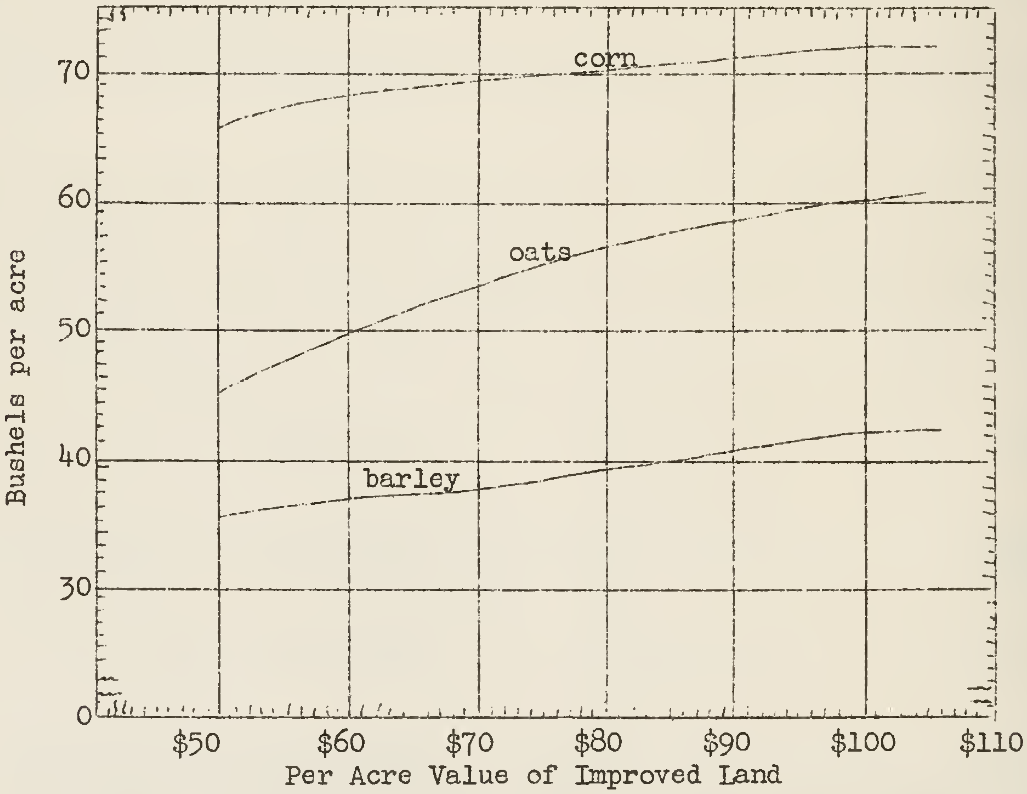

Fig. 1.--Average yields of corn, oats, and barley with varying values of improved land.

## Explanation of Tables

Variable standards are used in the analysis of the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per $100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farms" (Table 2) are taken from Tables 3 to 6 and from Figure 1 as follows:

Table 3 - Value of improved land.
  Gross earnings, gross expenses, and net earnings per acre.
  Value of improved land per acre.
  All items in the land-use section.
  Land tax per acre.
Figure 1 - Value of improved land.
  Yields for corn, oats, and barley.
Table 4 - Source of income.
  Feed fed per acre to productive livestock.
  Returns per $100 worth of feed fed.
  Dairy returns per cow.
Table 5 - Size of farm.
  Value of improvements per acre.
  Total months of labor.
  Number of work horses.
  Improvement cost per acre.
Table 6 - Size of farm and number of milk cows per 100 acres.
  Horse and machinery cost per crop acre.
  Labor cost per crop acre.

The terms used in the tables are the same as the terms used in the Illinois farm account book. For example, "improved land" is classified on Page 1 of the farm account book. It means tillable land and land occupied by farmstead, roads, and orchards. Likewise, "crop acres" are listed on Page 18, Line 36, of the farm account book. They include all the tillable land on which work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields. The percent of tillable land in grain crops increased as the value per acre of improved land increased from an average of $55 to $101 while the percent of tillable land in hay and pasture decreased (Table 3). The percent of land area tillable, net earnings per acre, and land tax per acre were higher on the high valued land than on the low valued land.

Yields per acre for corn, oats, and barley increased as the land value increased (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, his crop yields, and his net earnings per acre were high or low for 1941 in comparison with the average of other farms in his area having about the same value of improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 1, 1941

| | Source of income | | | |
|---|---|---|---|---|
| | Dairy sales 40%+ | Cattle 40% + | General farms | |
| Item | | | L.S. 60% - | L.S. 60% + |
| Number of farms - - - - - - - - - - - | 56 | 9 | 7 | 13 |
| Percent of income from prod. l.s. - | 87.4 | 87.2 | 43.8 | 86.3 |
| Percent of income from crops- - - - | 4.6 | 8.2 | 45.3 | 4.6 |
| Investments | | | | |
| Total per farm- - - - - - - - - - - | $26 690 | $51 778 | $40 352 | $27 674 |
| Total per acre- - - - - - - - - - - | 164 | 198 | 166 | 161 |
| Land per acre - - - - - - - - - - - | 73 | 86 | 90 | 78 |
| Improvements per acre - - - - - - | 40 | 38 | 30 | 37 |
| Machinery per acre- - - - - - - - | 13.20 | 13.59 | 9.41 | 13.63 |
| Earnings | | | | |
| Per farm | | | | |
| Gross earnings- - - - - - - - - | $ 7 292 | $11 146 | $ 8 684 | $ 6 978 |
| Gross expenses- - - - - - - - - | 3 301 | 4 550 | 3 579 | 3 152 |
| Net earnings- - - - - - - - - - | $ 3 991 | $ 6 596 | $ 5 105 | $ 3 826 |
| Per acre | | | | |
| Gross earnings- - - - - - - - - | $ 44.70 | $ 42.62 | $ 35.80 | $ 40.67 |
| Gross expenses- - - - - - - - - | 20.24 | 17.40 | 14.75 | 18.37 |
| Net earnings- - - - - - - - - - | $ 24.46 | $ 25.22 | $ 21.05 | $ 22.30 |
| Rate earned on investment - - - - | 15.0% | 12.7% | 12.7% | 13.8% |
| Labor and management earnings - - | $ 3 267 | $ 4 592 | $ 3 665 | $ 3 000 |
| Size and Intensity | | | | |
| Acres per farm- - - - - - - - - - | 163 | 262 | 243 | 172 |
| Percent of land area tillable - - | 80.1 | 90.6 | 86.7 | 80.0 |
| Percent tillable land in grain- - | 56.3 | 73.3 | 70.6 | 65.2 |
| Percent in hay and pasture- - - - | 41.8 | 25.1 | 23.4 | 32.2 |
| Feed fed per acre to prod. l.s. - | $ 19.52 | $ 31.12 | $ 11.25 | $ 20.74 |
| Months of labor per 100 crop A. - | 24.1 | 11.3 | 12.9 | 17.2 |
| Total months of labor - - - - - - | 25.3 | 24.2 | 24.5 | 20.8 |
| Crop Yields per Acre | | | | |
| Corn bu. - - - - - - - - - - - - - - | 70.1 | 72.7 | 71.9 | 69.0 |
| Oats, bu.- - - - - - - - - - - - - - | 55.6 | 62.7 | 54.2 | 55.4 |
| Livestock Returns | | | | |
| Per $100 feed fed- - - - - - - - - | $ 206 | $ 122 | $ 145 | $ 177 |
| Hog returns per litter- - - - - - | 164 | 184 | 167 | 157 |
| Dairy returns per cow - - - - - - | 179 | 130 | 110 | 148 |
| Expense Factors | | | | |
| Labor cost per crop acre- - - - - | $ 14.07 | $ 7.62 | $ 8.40 | $ 10.47 |
| Horse and machinery cost per crop acre - - - - - - - - - - | 9.37 | 7.38 | 5.82 | 8.66 |
| Improvement cost per acre - - - - | 2.50 | 2.24 | 1.38 | 2.20 |
| Land tax per acre - - - - - - - - | 1.26 | 1.37 | 1.24 | 1.45 |

Source of income. The grouping of accounting farms according to source of income for 1941 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer, however, should use caution in interpreting the data in Table 4. For example, the fact that ~~cattle~~ dairy farms showed a larger rate earned on the investment for 1941 than farms with other major sources of income does not mean that such a relationship will prevail over a long period of years. The relative profitableness of these enterprises in 1941 was due largely to conditions affecting price and production.

When comparing the returns on the various groups of farms per $100 worth of feed fed, one should consider the fact that there is a wide variation in the necessary returns per $100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, $195; dairy cattle, $157; hogs, $127; and feeder cattle, $117.

Differences in expenses are highly significant for the four groups of farms. Labor input per 100 crop acres was highest on the dairy farms, where 24.1 months of labor were used, and lowest on the cattle farms, where 11.3 months of labor were used. The dairy farmers evidently utilized a large amount of available labor to increase the size of their businesses without increasing the size of their farms.

The labor cost per crop acre ranged from $7.62 on the cattle farms to $14.07 on the dairy farms, and the horse and machinery cost per crop acre was also highest on the dairy farms, where it averaged $9.37 and lowest on the general farms having the least amount of livestock where it averaged $5.82.

Size of farm. When the farm records in Farming-Type Area 1 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on the smaller ones; and, after deductions were made for farm business expenditures and interest on the investment, the 33 largest farms had labor and management earnings which averaged $4,308 contrasted with $2,355 for the 21 smallest farms. The smaller farms had higher investments per acre for land, machinery, and total investment, indicating a higher capital input. The rate earned on investment, although somewhat larger on the small farms, did not differ significantly for the different size groups.

The smaller farms were operated more intensively than were the larger ones. This variation was indicated by the higher gross and net earnings per acre, by a larger value of feed fed per acre to productive livestock, and by a larger labor input per 100 crop acres.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 1, 1941

| Item | Total acres in farm: Less than 131 | 131 to 190 | 191 or more |
|---|---|---|---|
| Number of farms | 21 | 31 | 33 |
| Acres per farm | 103 | 161 | 251 |
| Investments | | | |
| Total per farm | $18 166 | $27 047 | $41 906 |
| Total per acre | 176 | 168 | 167 |
| Land per acre | 83 | 77 | 77 |
| Improvements per acre | 38 | 41 | 36 |
| Machinery per acre | 16.11 | 13.43 | 11.75 |
| Earnings | | | |
| Per farm | | | |
| Gross earnings | $ 4 954 | $ 7 139 | $10 137 |
| Gross expenses | 2 316 | 3 252 | 4 306 |
| Net earnings | $ 2 638 | $ 3 887 | $ 5 831 |
| Per acre | | | |
| Gross earnings | $ 48.00 | $ 44.41 | $ 40.47 |
| Gross expenses | 22.44 | 20.23 | 17.19 |
| Net earnings | $ 25.56 | $ 24.18 | $ 23.28 |
| Rate earned on investment | 14.5% | 14.4% | 13.9% |
| Labor and management earnings | $ 2 355 | $ 3 140 | $ 4 308 |
| Size and Intensity | | | |
| Percent of land area tillable | 82.6 | 82.3 | 82.5 |
| Percent tillable land in grain | 59.7 | 57.1 | 65.7 |
| Percent in hay and pasture | 38.6 | 40.8 | 31.5 |
| Feed fed per acre to productive livestock | $ 22.10 | $ 19.17 | $ 20.99 |
| Percent of income from productive livestock | 88.3 | 85.0 | 80.5 |
| Percent of income from crops | 1.3 | 6.1 | 13.1 |
| Months of labor per 100 crop acres | 26.4 | 22.9 | 15.6 |
| Total months of labor | 18.9 | 24.6 | 27.9 |
| Number of work horses | 2.6 | 3.2 | 3.7 |
| Crop Yields per Acre | | | |
| Corn, bu. | 67.0 | 72.3 | 70.8 |
| Oats, bu. | 50.7 | 59.3 | 56.6 |
| Livestock Returns | | | |
| Per $100 feed fed | $ 200 | $ 204 | $ 159 |
| Hog returns per litter | 151 | 173 | 165 |
| Dairy returns per cow | 171 | 183 | 164 |
| Expense Factors | | | |
| Labor cost per crop acre | $14.34 | $12.90 | $10.30 |
| Horse and machinery cost per crop acre | 10.17 | 9.92 | 7.21 |
| Improvement cost per acre | 2.29 | 2.49 | 2.17 |
| Land tax per acre | 1.62 | 1.23 | 1.26 |

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses. Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases but decrease as the size of farm increases. Therefore, the efficiency of a farm in the use of labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and the number of milk cows per 100 acres (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND NUMBER OF MILK COWS PER 100 ACRES
Accounting Farms in Farming-Type Area 1, 1941

| Acres per farm | Milk cows per 100 acres | | | Milk cows per 100 acres | | |
|---|---|---|---|---|---|---|
| | Less than 11 | 11 to 15.9 | 16 or more | Less than 11 | 11 to 15.9 | 16 or more |
| | (labor cost per crop acre) | | | (horse and machinery cost per crop acre) | | |
| Less than 131 | $12.00 | $14.40 | $17.10 | $8.10 | $10.10 | $11.60 |
| 131 to 190 | 10.80 | 12.90 | 15.10 | 7.50 | 9.30 | 11.30 |
| 191 or more | 8.30 | 11.00 | 13.00 | 6.50 | 7.60 | 10.00 |

## Producing for War Needs

In any given period gross receipts for hogs, cattle, dairy sales, eggs, and grain are relative measures of production (Table 7). Therefore the account keeper should use these standards to compare his own production with that of other account keepers. He should then adopt on his farm the kind of farm plan and the management practices that will make the best possible use of land, buildings, livestock, labor, machinery, and other resources for the duration of the war. Thus he will have more products to put on the nation's markets and so will be making the greatest possible contribution to the war effort.

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 1, 1938-1941

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1941 | 1940 | 1939 | 1938 |
| Number of farms | -- | 85 | 81 | 87 | 78 |
| Capital Investments | | | | | |
| Land | $ | $14 073 | $14 034 | $13 252 | $15 365 |
| Farm improvements | | 6 897 | 6 350 | 5 873 | 5 686 |
| Horses | | 337 | 394 | 391 | 498 |
| Productive livestock: Cattle | | 3 893 | 3 428 | 2 601 | 2 704 |
| Hogs | | 432 | 379 | 274 | 270 |
| Sheep | | 73 | 41 | 24 | 105 |
| Poultry | | 121 | 131 | 119 | 127 |
| Total productive livestock | ( ) | (4 519) | (3 979) | (3 018) | (3 206) |
| Feed and grain | | 2 454 | 2 260 | 1 830 | 1 915 |
| Machinery and equipment | | 2 170 | 2 085 | 1 929 | 1 728 |
| Automobile (farm share) | | 171 | 156 | 129 | 126 |
| Total | $ | $30 621 | $29 258 | $26 422 | $28 524 |
| Receipts and Net Increases | | | | | |
| Horses | $ | $ -- | $ -- | $ -- | $ -- |
| Productive livestock: Cattle | | 1 499 | 1 200 | 730 | 581 |
| Dairy sales | | 3 285 | 2 586 | 2 130 | 2 483 |
| Hogs | | 1 278 | 668 | 430 | 528 |
| Sheep | | 58 | 26 | 42 | 22 |
| Poultry | | 71 | 60 | 60 | 48 |
| Egg sales | | 271 | 205 | 195 | 212 |
| Total productive livestock | ( ) | (6 462) | (4 745) | (3 587) | (3 874) |
| Farm products used in household | | 279 | 253 | 241 | 267 |
| Feed and grain | | 693 | 207 | 271 | 190 |
| Labor off farm | | 30 | 62 | 38 | 30 |
| Miscellaneous | | 23 | 7 | 9 | 5 |
| AAA payments | | 275 | 282 | 311 | 137 |
| Total | $ | $ 7 762 | $ 5 556 | $ 4 457 | $ 4 503 |
| Expenses and Net Decreases | | | | | |
| Farm improvements | $ | $ 416 | $ 326 | $ 291 | $ 292 |
| Horses | | 15 | 27 | 14 | 22 |
| Productive livestock | | -- | -- | -- | -- |
| Feed and grain | | -- | -- | -- | -- |
| Machinery and equipment | | 788 | 587 | 489 | 520 |
| Automobile (farm share) | | 107 | 94 | 79 | 74 |
| Hired labor | | 706 | 523 | 490 | 502 |
| Miscellaneous | | 34 | 28 | 34 | 25 |
| Crop expense | | 203 | 190 | 178 | 202 |
| Livestock expense | | 103 | 79 | 80 | 80 |
| Taxes | | 270 | 276 | 244 | 252 |
| Total | $ | $ 2 642 | $ 2 130 | $ 1 899 | $ 1 969 |
| Receipts less expenses | $ | $ 5 120 | $ 3 426 | $ 2 558 | $ 2 534 |
| Family labor | | 189 | 199 | 224 | 239 |
| Returns for labor, capital, mgt. | $ | $ 4 931 | $ 3 227 | $ 2 334 | $ 2 295 |
| Operator's labor | | 598 | 544 | 516 | 519 |
| Net earnings per farm | $ | $ 4 333 | $ 2 683 | $ 1 818 | $ 1 776 |
| Rate Earned on Investment | % | 14.2% | 9.2% | 6.9% | 6.2% |
| Interest on investment | $ | $ 1 531 | $ 1 463 | $ 1 321 | $ 1 426 |
| Labor and Management Earnings | | 3 400 | 1 764 | 1 013 | 869 |
| Nonfarm income | $ | $ 41 | $ 47 | $ 75 | $ 74 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United States Department of Agriculture cooperating. H. P. RUSK, *Director.* Acts approved by Congress May 8 and June 30, 1914.

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# FARM BUSINESS REPORT . . . 1941

The farmer contributes most to the war effort by efficiently using his land, labor, machinery, and other available resources

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## FARMING-TYPE AREA TWO
## Northwestern Mixed Livestock Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

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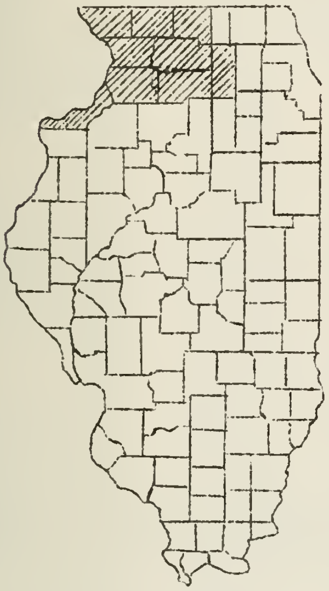
## Annual Farm Business Report

# ON FIVE HUNDRED SIXTEEN FARMS IN FARMING-TYPE AREA 2, 1941

By P. E. Johnston, J. B. Cunningham, and W. D. Buddemeier[1]

Farm earnings of accounting farms in Farming-Type Area 2 were much higher in 1941 than in 1940. The average net earnings per acre were $24.35 in 1941, $13.51 in 1940, $12.65 in 1939, and $9.62 in 1938. The items considered in calculating the net earnings included: inventory changes; cash receipts; cash expenses; the value of farm products used in the household; and unpaid family labor. Each of these five items was larger in 1941 than in 1940.



▨ Farming-Type Area 2
Mixed Livestock

Larger incomes from livestock and livestock products were, to a considerable extent, responsible for larger cash receipts in 1941 than in 1940. Although cash expenditures were higher, especially for feed and machinery, the total increase in income was greater than the total increase in expenditures; therefore the cash balance showed an increase for 1941.

The accounting farms in this report were larger than the average of all the farms in the area; the crop yields were above average; and the farm operators were more skillful than average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

The averages presented in this report provide a good local yardstick of efficiency. Any farmer keeping farm records can apply this yardstick to his business operations in order to locate the strong and weak places in the management of his farm. The data in Tables 1 to 7 and Figure 1 are particularly well adapted for such a comparison because they contain both measures of earnings and measures of those management factors which are responsible for major variations in farm earnings.

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[1] W. N. Thompson supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm account project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the indicated farm advisers:

D. G. McAllister, DeKalb County
V. J. Banter, Stephenson County
C. E. Yale, Lee County
D. E. Warren, Ogle County
R. C. Smith, Rock Island County
H. E. Kearnaghan, Jo Daviess County
F. H. Shuman, Whiteside County
M. P. Roske, Carroll County
H. R. Brunnemeyer, Winnebago County

### TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 2, 1938-1941

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1941 | 1940 | 1939 | 1938 |
| Number of farms | -- | 516 | 456 | 454 | 382 |
| Acres per farm | ______ | 208 | 212 | 209 | 206 |
| Inventory Changes | | | | | |
| Farm improvements | $______ | $ 95 | $ 74 | $ 104 | $ 100 |
| Livestock | ______ | 1 043 | 518 | 483 | 130 |
| Feed and grain | ______ | 882 | 112 | 521 | 112 |
| Machinery and equipment | ______ | 210 | 63 | 86 | 112 |
| Automobile (farm share) | ______ | 44 | 4 | -3 | -6 |
| Total | $ | $ 2 274 | $ 771 | $ 1 191 | $ 448 |
| Cash Receipts | | | | | |
| Farm improvements | $______ | $ 9 | $ 13 | $ 32 | $ 6 |
| Horses | ______ | 25 | 29 | 44 | 37 |
| Productive livestock: Cattle | ______ | 3 493 | 3 464 | 2 656 | 1 912 |
| Dairy sales | ______ | 1 202 | 822 | 669 | 784 |
| Hogs | ______ | 2 377 | 1 459 | 1 392 | 1 629 |
| Sheep | ______ | 216 | 195 | 205 | 136 |
| Poultry | ______ | 124 | 93 | 87 | 74 |
| Egg sales | ______ | 255 | 171 | 151 | 170 |
| Total productive livestock | (______) | (7 667) | (6 204) | (5 160) | (4 705 |
| Feed and grain | ______ | 901 | 927 | 842 | 556 |
| Machinery and equipment | ______ | 214 | 199 | 188 | 192 |
| Automobile (farm share) | ______ | 60 | 39 | 32 | 23 |
| Labor off farm | ______ | 31 | 38 | 38 | 43 |
| Miscellaneous | ______ | 12 | 9 | 11 | 6 |
| AAA payments | ______ | 391 | 399 | 576 | 164 |
| Total | $ | $ 9 310 | $ 7 857 | $ 6 923 | $ 5 732 |
| Cash Expenses | | | | | |
| Farm improvements | $______ | $ 476 | $ 390 | $ 426 | $ 357 |
| Horses | ______ | 21 | 22 | 28 | 32 |
| Productive livestock: Cattle | ______ | 1 815 | 1 938 | 1 740 | 941 |
| Hogs | ______ | 123 | 96 | 119 | 116 |
| Sheep | ______ | 130 | 107 | 137 | 77 |
| Poultry | ______ | 39 | 31 | 32 | 26 |
| Total productive livestock | (______) | (2 107) | (2 172) | (2 028) | (1 160 |
| Feed and grain | ______ | 1 117 | 827 | 695 | 514 |
| Machinery and equipment | ______ | 1 059 | 798 | 778 | 746 |
| Automobile (farm share) | ______ | 222 | 146 | 130 | 112 |
| Hired labor | ______ | 417 | 367 | 362 | 312 |
| Miscellaneous | ______ | 39 | 35 | 33 | 31 |
| Crop expense | ______ | 163 | 180 | 175 | 174 |
| Livestock expense | ______ | 78 | 63 | 66 | 61 |
| Taxes | ______ | 281 | 277 | 266 | 237 |
| Total | $ | $ 5 980 | $ 5 277 | $ 4 987 | $ 3 736 |
| Summary | | | | | |
| Cash balance | $______ | $ 3 330 | $ 2 580 | $ 1 936 | $ 1 996 |
| Farm products used in household | ______ | 276 | 247 | 250 | 265 |
| Total inventory change | ______ | 2 274 | 771 | 1 191 | 448 |
| Receipts less expenses | $______ | $ 5 880 | $ 3 598 | $ 3 377 | $ 2 709 |
| Total unpaid labor | ______ | 810 | 736 | 732 | 724 |
| Net earnings per farm | $______ | $ 5 070 | $ 2 862 | $ 2 645 | $ 1 985 |
| Net earnings per acre | $ | $ 24.35 | $ 13.51 | $ 12.65 | $ 9.62 |

Inventory changes. The year 1941 was the ninth consecutive year of increasing inventories. The increases during the past four years ranged from $2,274 in 1941 to $448 in 1940 (Table 1). The largest increases in 1941 were for livestock and feed and grain. The average amounts of grain on hand in Area 2 at the two inventory periods were:

| Crop | Beginning of year (bushels) | End of year (bushels) |
|---|---|---|
| Corn | 2 511 | 2 840 |
| Oats | 1 163 | 1 069 |
| Wheat | 36 | 22 |
| Soybeans | 73 | 82 |

Summary of cash receipts and cash expenses. Cash receipts exceeded cash expenses in 1941 by $3,330, a larger margin than for any other year during the past four. The cash balance, the difference between cash receipts and expenses, is the amount of money available for family living expenses, interest, debt payments, and savings.

Although there was no appreciable change in the amount of family labor available, the total valuation of unpaid labor was higher for 1941 than for any other year in the past four. This increase resulted from the fact that the physical labor of the operator and other members of the family was valued at $55 per month in 1941 and at $50 per month in each of the three previous years.

The net earnings per farm averaged $5,070 in 1941 compared with $2,862 in 1940. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding to the cash balance the value of farm products used in the household and the inventory increases and by subtracting from the resulting total the value of unpaid labor. Therefore this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

Variation in farm earnings. A wide variation was found in earnings on the farms in Area 2. For example, 79 farms earned less than ten percent on their investment, with an average rate earned of 7.9 percent; but 54 farms earned twenty-two percent or more, with an average rate earned of 24.7 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had $1,555 for labor and management earnings contrasted with $5,733 for the latter group. The variation in earnings and in size of farm for all the records in the area was as follows:

| Rate earned on investment (percent) | Number of farms | Average rate earned (percent) | Acres per farm | Capital invested per farm | Gross earnings per farm | Net earnings per farm | Labor and management earnings |
|---|---|---|---|---|---|---|---|
| Less than 10.00 | 79 | 7.9 | 215 | $33 414 | $6 209 | $2 644 | $1 555 |
| 10.00 to 13.99 | 135 | 12.0 | 229 | 39 040 | 8 247 | 4 684 | 3 347 |
| 14.00 to 17.99 | 132 | 16.0 | 205 | 34 181 | 8 812 | 5 461 | 4 371 |
| 18.00 to 21.99 | 116 | 19.8 | 195 | 30 876 | 9 362 | 6 111 | 5 191 |
| 22.00 or more | 54 | 24.7 | 183 | 25 884 | 9 168 | 6 393 | 5 733 |

## TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 2, 1941

| Item | Your farm | Standards for your farm | Average of all farms |
|---|---|---|---|
| Rate earned on investment- - - - - - - - - | ____% | 15.0% | 15.0% |
| Number of farms- - - - - - - - - - - - - - - | -- | -- | 516 |
| Acres in farm- - - - - - - - - - - - - - - - | ____ | 208 | 208 |
| Acres tillable - - - - - - - - - - - - - - - | ____ | 171 | 171 |
| Acres in crops - - - - - - - - - - - - - - - | ____ | 135 | 135 |
| Gross earnings per acre- - - - - - - - - - - | $____ | $____ a/ | $38.44 |
| Total expenses per acre--- - - - - - - - - - | ____ | ____ | 14.09 |
| Net earnings per acre- - - - - - - - - - - - | $ | $ | $24.35 |
| Investments | | | |
| Value of land per acre - - - - - - - - - - | $____ | $ 89 | $ 89 |
| Value of improved land per acre- - - - - | ____ | ____ a/ | 95 |
| Value of improvements per acre - - - - - | ____ | ____ e/ | 29 |
| Total investment per acre- - - - - - - - | | 162 | 162 |
| Land Use | | | |
| Percent of land area tillable- - - - - - | ____ | ____ a/ | 82.3 |
| Percent of tillable land in: | | | |
| Corn - - - - - - - - - - - - - - - - - - | ____ | ____ | 31.8 |
| Oats - - - - - - - - - - - - - - - - - - | ____ | ____ | 20.9 |
| Wheat- - - - - - - - - - - - - - - - - - | ____ | ____ | 1.2 |
| Soybeans - - - - - - - - - - - - - - - - | ____ | ____ | 3.4 |
| Other crops- - - - - - - - - - - - - - - | ____ | ____ | 6.1 |
| Legume hay and pasture - - - - - - - - - | ____ | ____ | 24.0 |
| Nonlegume hay and pasture- - - - - - - | | | 12.6 |
| Crop Yields | | | |
| Corn - - - - - - - - - - - - - - - - - - - | ____ | ____ b/ | 71.2 |
| Oats - - - - - - - - - - - - - - - - - - - | ____ | ____ | 49.6 |
| Wheat- - - - - - - - - - - - - - - - - - - | ____ | 20.5 | 20.5 |
| Soybeans - - - - - - - - - - - - - - - - - | | 22.9 | 22.9 |
| Livestock Factors | | | |
| Value of feed fed to productive l.s. - - | $____ | $ 3 893 | $ 3 893 |
| Feed fed per acre to productive l.s. - - | ____ | ____ c/ | 18.70 |
| Returns per $100 worth of feed fed - - - | ____ | ____ | 175 |
| Poultry returns per hen- - - - - - - - - | ____ | 3.60 | 3.60 |
| Number of litters farrowed - - - - - - - | ____ | 19.6 | 19.6 |
| Number of pigs weaned per litter - - - - | ____ | 6.4 | 6.4 |
| Returns per litter farrowed- - - - - - - | $____ | $ 157 | $ 157 |
| Average number of cows milked- - - - - - | ____ | 10.2 | 10.2 |
| Dairy returns per cow milked - - - - - - | $ | $ c/ | $ 126 |
| Expense Factors | | | |
| Horse and machinery cost per crop acre - | $____ | $____ d/ | $ 6.58 |
| Labor cost per crop acre - - - - - - - - | ____ | ____ | 8.83 |
| Total months of labor- - - - - - - - - - | ____ | ____ e/ | 21.3 |
| Number of work horses- - - - - - - - - - | ____ | ____ | 2.8 |
| Improvement cost per acre- - - - - - - - | $____ | $____ | $ 1.79 |
| Land tax per acre- - - - - - - - - - - - | ____ | ____ a/ | 1.18 |

Source of Standards:

a/ Table 3, value of improved land.
b/ Fig. 1, value of improved land.
c/ Table 4, source of income.
d/ Table 6, size of farm and value of feed fed.
e/ Table 5, size of farm.

## CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

### Accounting Farms in Farming-Type Area 2, 1941

The numbers above the lines across the middle of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Factors that affect the gross earnings | | | | | | | | Gross expense per acre | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Percent of tillable land in legume hay and pasture | Crop yields | | Feed fed per acre to productive l.s. | Returns per $100 feed fed | Poultry returns per hen | Hog returns per litter farrowed | Dairy returns per cow milked | | Horse and machinery cost per crop acre | Labor cost per crop acre | Improvement cost per acre |
| | | | | Corn, bu. | Oats, bu. | | | | | | | | | |
| 25.0 | 458 | | | | | | | 6.10 | 232 | | | | | |
| 23.0 | 408 | | | | | | | 5.60 | 217 | | | | | |
| 21.0 | 358 | | | | | | | 5.10 | 202 | | | | | |
| 19.0 | 308 | | | | | | | 4.60 | 187 | | | | | |
| 17.0 | 258 | | | | | | | 4.10 | 172 | | | | | |
| 15.0 | 208 | | | | | | | 3.60 | 157 | | | | | |
| 13.0 | 158 | | | | | | | 3.10 | 142 | | | | | |
| 11.0 | 108 | | | | | | | 2.60 | 127 | | | | | |
| 9.0 | 58 | | | | | | | 2.10 | 112 | | | | | |
| 7.0 | -- | | | | | | | 1.60 | 97 | | | | | |
| 5.0 | -- | | | | | | | 1.10 | 82 | | | | | |
| * 2% | 50 | $4 | 2% | 5 | 5 | $4 | $15 | $.50 | $15 | $10 | $2 | $.50 | $1 | $.30 |

* Each space between lines represents the values indicated at bottom of each column.

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS
RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 2, 1941

| | Value of improved land | | | | | |
|---|---|---|---|---|---|---|
| Item | Less than $53 | $53 to $72 | $73 to $92 | $93 to $112 | $112 to $132 | $133 or more |
| Average value of improved land- | $ 44 | $ 64 | $ 81 | $ 103 | $ 123 | $. 142 |
| Number of farms - - - - - - - - - | 55 | 103 | 119 | 85 | 92 | 62 |
| Acres per farm- - - - - - - - - - | 216 | 197 | 202 | 198 | 232 | 211 |
| Percent of land area tillable - | 68.7 | 75.6 | 80.1 | 86.7 | 89.3 | 91.9 |
| Percent of tillable land in: | | | | | | |
| Corn- - - - - - - - - - - - - - | 26.8 | 27.5 | 31.5 | 32.3 | 35.1 | 34.9 |
| Oats- - - - - - - - - - - - - - | 18.7 | 20.6 | 20.1 | 21.0 | 22.9 | 21.6 |
| Wheat - - - - - - - - - - - - - | 1.0 | .9 | 1.6 | 1.6 | .9 | 1.0 |
| Soybeans- - - - - - - - - - - - | 2.1 | 1.8 | 2.6 | 2.4 | 6.0 | 4.8 |
| Other crops - - - - - - - - - - | 8.4 | 4.3 | 5.5 | 6.8 | 6.0 | 6.6 |
| Legume hay and pasture- - - - | 25.1 | 29.3 | 25.4 | 23.3 | 19.7 | 22.1 |
| Nonlegume hay and pasture - - | 17.9 | 15.6 | 13.3 | 12.6 | 9.4 | 9.0 |
| Gross earnings per acre - - - - | $26.55 | $33.94 | $36.93 | $39.60 | $43.11 | $49.78 |
| Gross expenses per acre - - - - | 11.42 | 13.92 | 13.78 | 14.49 | 14.55 | 15.97 |
| Net earnings per acre - - - - - | $15.13 | $20.02 | $23.15 | $25.11 | $28.56 | $33.81 |
| Land tax per acre - - - - - - - | $ .89 | $ 1.01 | $ 1.13 | $ 1.35 | $ 1.30 | $ 1.40 |

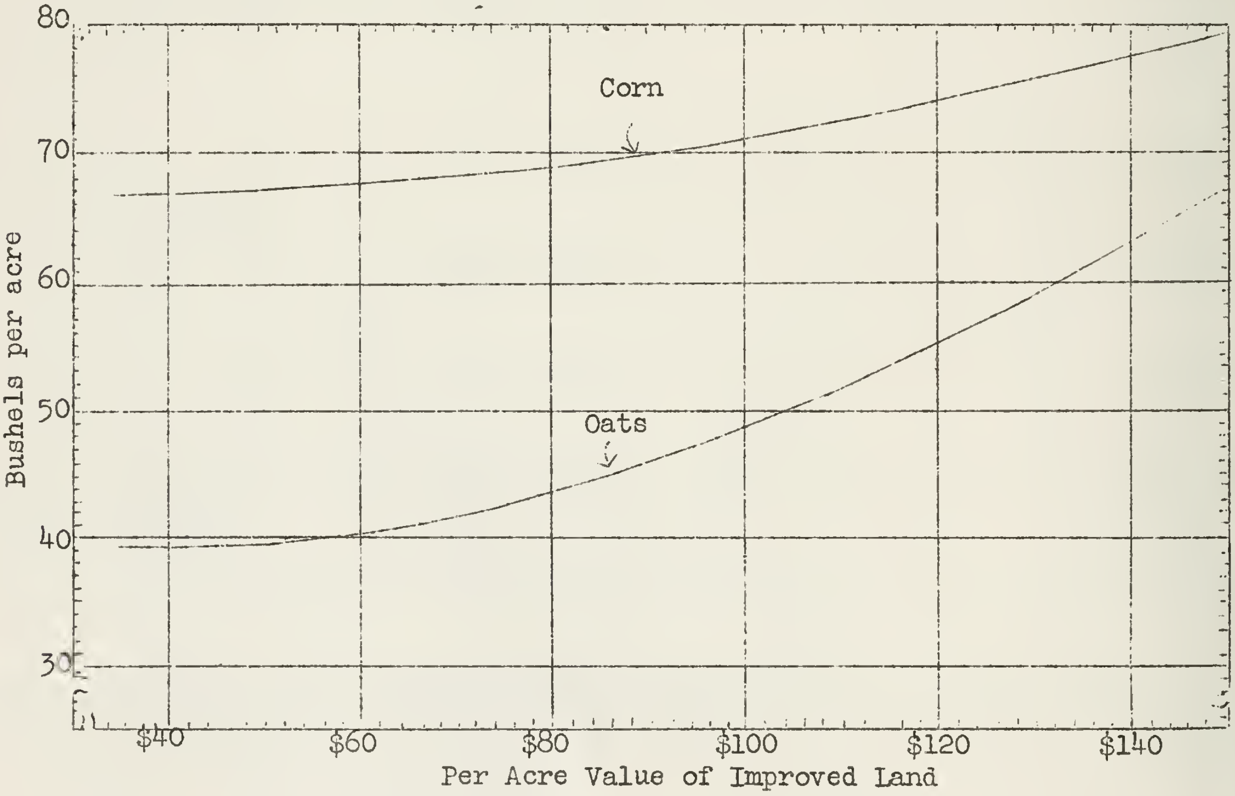

Fig. 1.--Average yields of corn and oats with varying values of improved land.

## Explanation of Tables

Variable standards are used in the analysis of the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per $100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farms" (Table 2) are taken from Tables 3 to 6 and from Figure 1 as follows:

Table 3 - Value of improved land.
    Gross earnings, gross expenses, and net earnings per acre.
    Value of improved land per acre.
    All items in the land-use section.
    Land tax per acre.
Figure 1 - Value of improved land.
    Yields for corn and oats.
Table 4 - Source of income.
    Feed fed per acre to productive livestock.
    Returns per $100 worth of feed fed.
    Dairy returns per cow.
Table 5 - Size of farm.
    Value of improvements per acre.
    Total months of labor.
    Number of work horses.
    Improvement cost per acre.
Table 6 - Size of farm and amount of feed fed per acre.
    Horse and machinery cost per crop acre.
    Labor cost per crop acre.

The terms used in the tables are the same as the terms used in the Illinois farm account book. For example, "improved land" is classified on Page 1 of the farm account book. It means tillable land and land occupied by farmstead, roads, and orchards. Likewise, "crop acres" are listed on Page 18, Line 36, of the farm account book. They include all the tillable land on which work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields. The percent of tillable land in grain crops increased as the per acre value of improved land increased while the percent of tillable land in hay and pasture decreased (Table 3). Likewise the percent of land area tillable and the net earnings per acre increased as the value of improved land increased, and the land tax per acre was higher on the high valued land than on the low valued land.

Yields per acre for corn and oats increased as the land value increased (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, his crop yields, and his net earnings per acre were high or low for 1941 in comparison with the average of other farms in his area having about the same value of improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 2, 1941

| | Source of income | | | | | |
|---|---|---|---|---|---|---|
| | | | | | General farms | |
| Item | Grain 40%+ | Dairy sales 40%+ | Hogs 40%+ | Cattle 40%+ | L.S. 60%- | L.S. 60%+ |
| Number of farms - - - - - - - - - - | 33 | 39 | 167 | 74 | 26 | 177 |
| Percent of income from prod. l.s. | 36.2 | 91.6 | 91.5 | 92.5 | 54.8 | 78.4 |
| Percent of income from crops- - - | 55.8 | -- | -- | -- | 33.6 | 12.1 |
| Investments | | | | | | |
| Total per farm- - - - - - - - - - | $41 649 | $25 696 | $29 492 | $46 831 | $36 994 | $32 046 |
| Total per acre- - - - - - - - - - | 163 | 143 | 158 | 193 | 170 | 152 |
| Land per acre - - - - - - - - - - | 104 | 68 | 85 | 100 | 107 | 84 |
| Improvements per acre - - - - - | 22 | 32 | 29 | 32 | 25 | 27 |
| Machinery per acre- - - - - - - | 10.31 | 11.22 | 11.32 | 12.38 | 11.35 | 10.45 |
| Earnings | | | | | | |
| Per farm | | | | | | |
| Gross earnings - - - - - - - - | $ 8 742 | $ 6 538 | $ 7 710 | $10 655 | $ 7 808 | $ 7 661 |
| Gross expenses - - - - - - - - | 2 910 | 2 841 | 2 715 | 4 317 | 2 768 | 2 885 |
| Net earnings- - - - - - - - - - | $ 5 832 | $ 3 697 | $ 4 995 | $ 6 338 | $ 5 040 | $ 4 776 |
| Per acre | | | | | | |
| Gross earnings- - - - - - - - | $ 34.13 | $ 36.41 | $ 41.37 | $ 44.01 | $ 35.95 | $ 36.39 |
| Gross expenses- - - - - - - - | 11.36 | 15.82 | 14.57 | 17.83 | 12.75 | 13.70 |
| Net earnings- - - - - - - - - - | $ 22.77 | $ 20.59 | $ 26.80 | $ 26.18 | $ 23.20 | $ 22.69 |
| Rate earned on investment - - - | 14.0% | 14.4% | 16.9% | 13.5% | 13.6% | 14.9% |
| Labor and management earnings - | $ 4 352 | $ 3 018 | $ 4 137 | $ 4 580 | $ 3 780 | $ 3 808 |
| Size and Intensity | | | | | | |
| Acres per farm- - - - - - - - - - | 256 | 180 | 186 | 242 | 217 | 211 |
| Percent of land area tillable - | 87.3 | 73.9 | 83.0 | 84.4 | 87.5 | 80.3 |
| Percent tillable land in grain- | 67.3 | 51.7 | 58.2 | 62.4 | 61.5 | 57.5 |
| Percent in hay and pasture- - - | 27.2 | 45.3 | 38.3 | 33.9 | 33.8 | 37.8 |
| Feed fed per acre to prod. l.s. | $ 8.00 | $ 17.45 | $ 21.08 | $ 28.32 | $ 11.38 | $ 15.87 |
| Months of labor per 100 crop A. | 10.0 | 22.1 | 16.8 | 14.3 | 13.0 | 16.5 |
| Total months of labor - - - - - | 19.0 | 22.4 | 20.0 | 23.8 | 19.4 | 22.0 |
| Crop Yields per Acre | | | | | | |
| Corn, bu. - - - - - - - - - - - - | 70.9 | 72.0 | 70.5 | 77.1 | 66.7 | 69.5 |
| Oats, bu. - - - - - - - - - - - - | 52.7 | 45.6 | 47.4 | 53.6 | 53.7 | 48.5 |
| Livestock Returns | | | | | | |
| Per $100 feed fed - - - - - - - - | $ 163 | $ 197 | $ 185 | $ 147 | $ 181 | $ 186 |
| Hog returns per litter- - - - - | 144 | 133 | 166 | 166 | 146 | 148 |
| Dairy returns per cow - - - - - | 96 | 153 | 118 | 117 | 120 | 128 |
| Expense Factors | | | | | | |
| Labor cost per crop acre- - - - | $ 5.52 | $ 12.16 | $ 9.31 | $ 8.53 | $ 6.96 | $ 9.22 |
| Horse and machinery cost per crop acre - - - - - - - - | 4.91 | 8.30 | 6.94 | 6.98 | 5.91 | 6.33 |
| Improvement cost per acre - - - | 1.45 | 2.25 | 1.77 | 2.02 | 1.48 | 1.71 |
| Land tax per acre - - - - - - - | 1.20 | 1.10 | 1.19 | 1.19 | 1.27 | 1.18 |

Source of income. The grouping of accounting farms according to source of income for 1941 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer, however, should use caution in interpreting the data in Table 4. For example, the fact that hog farms showed the largest rate earned on the investment for 1941 and that cattle farms showed the smallest does not mean that such a relationship will prevail over a long period of years. The relative profitableness of these enterprises in 1941 was due largely to conditions affecting price and production.

When comparing the returns on the various groups of farms per $100 worth of feed fed, one should consider the fact that there is a wide variation in the necessary returns per $100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, $195; dairy cattle, $157; hogs, $127; and feeder cattle, $117.

Furthermore, when comparing crop yields for the various types of farming, one should note the following items which indicate that the grain farms were located on the better land: (1) high value of land per acre; (2) large percent of land area tillable; (3) large percent of land in grain; and (4) high land tax per acre.

Differences in expenses, on the other hand, are highly significant for the six groups of farms. Labor input per 100 crop acres was highest on the dairy farms, where 22.1 months of labor were used, and lowest on the grain farms, where 10.0 months of labor were used. The dairy farmers evidently utilized a large amount of available labor to increase the size of their businesses without increasing the size of their farms.

The labor cost per crop acre ranged from $12.16 on the dairy farms to $5.52 on the grain farms; the horse and machinery cost per crop acre was highest on the dairy farms, where it averaged $8.30 and lowest on the grain farms, where it averaged $4.91; the improvement cost per acre averaged $2.25 on the dairy farms and $1.45 on the grain farms.

Size of farm. When the farm records in Farming-Type Area 2 are sorted according to the total acres in the farm, they indicate that the largest farms had a greater total investment in land, improvements, and equipment than did the smallest ones. The operators on the largest farms took in more money during the year than did those on the smallest ones; and, after deductions were made for farm business expenditures and interest on the investment, the 16 largest farms had labor and management earnings which averaged $7,082 contrasted with $2,501 for the 93 smallest farms. The rate earned on investment was largest for the two size groups under 200 acres in size.

The smallest farms were operated more intensively than were the larger ones. This variation was indicated by the much higher gross earnings per acre and by the larger labor and capital input per acre and the larger value of feed fed per acre to productive livestock.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 2, 1941

| Item | Total acres in farm | | | | | |
|---|---|---|---|---|---|---|
| | Less than 121 | 121 to 200 | 201 to 280 | 281 to 360 | 361 to 440 | 441 or more |
| Number of farms | 93 | 221 | 110 | 50 | 26 | 16 |
| Acres per farm | 104 | 166 | 238 | 319 | 395 | 534 |
| Investments | | | | | | |
| Total per farm | $17 504 | $27 637 | $39 173 | $51 891 | $57 552 | $79 108 |
| Total per acre | 169 | 166 | 164 | 163 | 146 | 148 |
| Land per acre | 84 | 89 | 90 | 91 | 84 | 88 |
| Improvements per acre | 35 | 29 | 29 | 27 | 25 | 22 |
| Machinery per acre | 14.63 | 11.92 | 11.48 | 9.73 | 8.29 | 8.49 |
| Earnings | | | | | | |
| Per farm | | | | | | |
| Gross earnings | $ 4 645 | $ 6 902 | $ 9 138 | $11 201 | $13 203 | $16 456 |
| Gross expenses | 1 878 | 2 536 | 3 220 | 4 092 | 4 718 | 6 019 |
| Net earnings | $ 2 767 | $ 4 366 | $ 5 918 | $ 7 109 | $ 8 485 | $10 437 |
| Per acre | | | | | | |
| Gross earnings | $ 44.75 | $ 41.50 | $ 38.33 | $ 35.11 | $ 33.42 | $ 30.79 |
| Gross expenses | 18.09 | 15.25 | 13.51 | 12.83 | 11.94 | 11.26 |
| Net earnings | $ 26.66 | $ 26.25 | $ 24.82 | $ 22.28 | $ 21.48 | $ 19.53 |
| Rate earned on investment | 15.8% | 15.8% | 15.1% | 13.7% | 14.7% | 13.2% |
| Labor and management earnings | $ 2 501 | $ 3 603 | $ 4 588 | $ 5 109 | $ 6 195 | $ 7 082 |
| Size and Intensity | | | | | | |
| Percent of land area tillable | 85.4 | 84.6 | 82.2 | 79.3 | 77.2 | 80.6 |
| Percent tillable land in grain | 55.2 | 57.5 | 60.9 | 61.3 | 61.7 | 59.8 |
| Percent in hay and pasture | 42.8 | 38.9 | 35.2 | 33.9 | 33.0 | 32.3 |
| Feed fed per acre to prod. l.s. | $ 20.86 | $ 20.68 | $ 17.83 | $ 18.96 | $ 14.05 | $ 15.54 |
| Percent of income from prod. l.s. | 88.3 | 87.0 | 79.1 | 84.5 | 71.3 | 75.4 |
| Percent of income from crops | 2.0 | 3.6 | 12.9 | 7.4 | 19.5 | 15.7 |
| Months of labor per 100 crop A. | 22.9 | 17.9 | 14.4 | 13.5 | 12.1 | 10.6 |
| Total months of labor | 15.4 | 19.7 | 22.4 | 27.5 | 30.1 | 36.4 |
| Number of work horses | 2.3 | 2.7 | 2.9 | 3.1 | 3.7 | 4.3 |
| Crop Yields per Acre | | | | | | |
| Corn, bu. | 72.3 | 72.3 | 72.1 | 69.7 | 69.9 | 67.2 |
| Oats, bu. | 47.3 | 49.2 | 52.0 | 51.6 | 45.5 | 45.7 |
| Livestock Returns | | | | | | |
| Per $100 feed fed | $ 197 | $ 180 | $ 175 | $ 160 | $ 174 | $ 153 |
| Hog returns per litter | 143 | 160 | 159 | 155 | 159 | 172 |
| Dairy returns per cow | 122 | 128 | 126 | 122 | 137 | 139 |
| Expense Factors | | | | | | |
| Labor cost per crop acre | $ 12.42 | $ 9.85 | $ 8.17 | $ 7.70 | $ 7.08 | $ 6.48 |
| Horse and machinery cost per crop acre | 8.39 | 6.79 | 6.33 | 6.40 | 5.72 | 5.69 |
| Improvement cost per acre | 2.06 | 1.87 | 1.75 | 1.68 | 1.60 | 1.63 |
| Land tax per acre | 1.24 | 1.26 | 1.18 | 1.13 | 1.13 | .99 |

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses. Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases but decrease as the size of farm increases. Therefore, the efficiency of a farm in the use of labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 2, 1941

| Acres per farm | Feed fed per acre | | | | Feed fed per acre | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Less than $10.00 | $10.00 to $16.99 | $17.00 to $23.99 | $24.00 or more | Less than $10.00 | $10.00 to $16.99 | $17.00 to $23.99 | $24.00 or more |
| | (labor cost per crop acre) | | | | (horse and machinery cost per crop acre) | | | |
| Less than 121 | $10.30 | $12.50 | $12.92 | $13.00 | $ 7.02 | $7.50 | $8.08 | $8.86 |
| 121 to 200 | 9.71 | 9.81 | 10.00 | 10.40 | 5.94 | 6.92 | 7.00 | 7.22 |
| 201 to 280 | 7.76 | 8.27 | 8.40 | 8.64 | 5.60 | 5.85 | 6.57 | 7.00 |
| 281 to 360 | 7.01 | 7.91 | 8.00 | 8.18 | 5.40 | 5.50 | 5.80 | 6.54 |
| 361 to 440 | 6.91 | 6.95 | 7.17 | 8.04 | 5.15 | 5.30 | 5.65 | 5.90 |
| 441 or more | 5.95 | 6.50 | 6.70 | 7.00 | 5.00 | 5.15 | 5.50 | 5.70 |

## Producing for War Needs

In any given period gross receipts for hogs, cattle, dairy sales, eggs, and grain are relative measures of production (Table 7). Therefore the account keeper should use these standards to compare his own production with that of other account keepers. He should then adopt on his farm the kind of farm plan and the management practices that will make the best possible use of land, buildings, livestock, labor, machinery, and other resources for the duration of the war. Thus he will have more products to put on the nation's markets and so will be making the greatest possible contribution to the war effort.

## TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS

Accounting Farms in Farming-Type Area 2, 1938-1941

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1941 | 1940 | 1939 | 1938 |
| Number of farms - - - - - - - - - - - | -- | 516 | 456 | 454 | 382 |
| Capital Investments | | | | | |
| Land- - - - - - - - - - - - - - - - - | $ | $18 461 | $19 572 | $19 274 | $17 251 |
| Farm improvements - - - - - - - - - | | 5 939 | 5 829 | 5 673 | 5 295 |
| Horses- - - - - - - - - - - - - - - - | | 288 | 334 | 380 | 402 |
| Productive livestock: Cattle- - - | | 3 091 | 2 847 | 2 295 | 2 045 |
| Hogs- - - - | | 781 | 721 | 825 | 787 |
| Sheep - - - | | 162 | 150 | 121 | 98 |
| Poultry - - | | 107 | 100 | 107 | 110 |
| Total productive livestock- - - - | ( ) | (4 141) | (3 818) | (3 348) | (3 040) |
| Feed and grain- - - - - - - - - - - | | 2 583 | 2 738 | 2 295 | 2 079 |
| Machinery and equipment - - - - - | | 2 103 | 2 099 | 2 033 | 1 870 |
| Automobile (farm share) - - - - - | | 209 | 185 | 186 | 184 |
| Total - - - - - - - - - - - - - - - | $ | $33 724 | $34 575 | $33 189 | $30 121 |
| Receipts and Net Increases | | | | | |
| Horses- - - - - - - - - - - - - - - - | $ | $ -- | $ -- | $ -- | $ -- |
| Productive livestock: Cattle- - - | | 2 144 | 1 993 | 1 485 | 1 082 |
| Dairy sales | | 1 202 | 822 | 669 | 784 |
| Hogs- - - - | | 2 802 | 1 444 | 1 202 | 1 545 |
| Sheep - - - | | 108 | 86 | 85 | 62 |
| Poultry - - | | 116 | 68 | 56 | 49 |
| Egg sales - | | 255 | 171 | 151 | 170 |
| Total productive livestock- - - - | ( ) | (6 627) | (4 584) | (3 648) | (3 692) |
| Farm products used in household - | | 276 | 247 | 250 | 265 |
| Feed and grain- - - - - - - - - - - | | 666 | 212 | 668 | 154 |
| Labor off farm- - - - - - - - - - - | | 31 | 38 | 38 | 43 |
| Miscellaneous - - - - - - - - - - - | | 12 | 9 | 11 | 6 |
| AAA payments- - - - - - - - - - - - | | 391 | 399 | 576 | 164 |
| Total - - - - - - - - - - - - - - - | $ | $ 8 003 | $ 5 489 | $ 5 191 | $ 4 324 |
| Expenses and Net Decreases | | | | | |
| Farm improvements - - - - - - - - - | $ | $ 372 | $ 303 | $ 290 | $ 251 |
| Horses- - - - - - - - - - - - - - - - | | 20 | 27 | 17 | 12 |
| Productive livestock- - - - - - - | | -- | -- | -- | -- |
| Feed and grain- - - - - - - - - - - | | -- | -- | -- | -- |
| Machinery and equipment - - - - - | | 635 | 536 | 504 | 442 |
| Automobile (farm share) - - - - - | | 118 | 103 | 101 | 95 |
| Hired labor - - - - - - - - - - - - | | 417 | 367 | 362 | 312 |
| Miscellaneous - - - - - - - - - - - | | 39 | 35 | 33 | 31 |
| Crop expense- - - - - - - - - - - - | | 163 | 180 | 175 | 174 |
| Livestock expense - - - - - - - - - | | 78 | 63 | 66 | 61 |
| Taxes - - - - - - - - - - - - - - - - | | 281 | 277 | 266 | 237 |
| Total - - - - - - - - - - - - - - - | $ | $ 2 123 | $ 1 891 | $ 1 814 | $ 1 615 |
| Receipts less expenses- - - - - - | $ | $ 5 880 | $ 3 598 | $ 3 377 | $ 2 709 |
| Family labor- - - - - - - - - - - - | | 195 | 176 | 178 | 172 |
| Returns for labor, capital,mgt. | $ | $ 5 685 | $ 3 422 | $ 3 199 | $ 2 537 |
| Operator's labor- - - - - - - - - - | | 615 | 560 | 554 | 552 |
| Net earnings per farm - - - - - - | $ | $ 5 070 | $ 2 862 | $ 2 645 | $ 1 985 |
| Rate Earned on Investment - - - - - | % | 15.0% | 8.3% | 8.0% | 6.6% |
| Interest on investment- - - - - - | $ | $ 1 686 | $ 1 729 | $ 1 660 | $ 1 505 |
| Labor and Management Earnings - - - | | 3 999 | 1 693 | 1 539 | 1 032 |
| Nonfarm income- - - - - - - - - - - - | $ | $ 85 | $ 55 | $ 73 | $ 74 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United States Department of Agriculture cooperating. H. P. RUSK, *Director*. Acts approved by Congress May 8 and June 30, 1914.

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# FARM BUSINESS REPORT . . . 1941

The farmer contributes most to the war effort by efficiently using his land, labor, machinery, and other available resources

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## FARMING-TYPE AREA THREE
## Western Livestock and Grain Area

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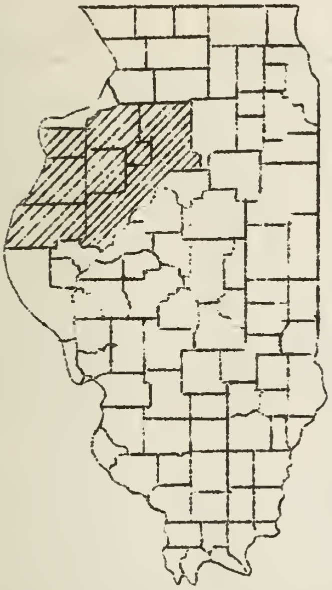
## Annual Farm Business Report

## ON FIVE HUNDRED NINETY-FOUR FARMS IN FARMING-TYPE AREA 3, 1941

By P. E. Johnston, J. B. Cunningham, and L. F. Stice[1]

Farm earnings of accounting farms in Farming-Type Area 3 were much higher in 1941 than in 1940. The average net earnings per acre were $24.91 in 1941, $11.67 in 1940, $14.06 in 1939, and $10.36 in 1938. The items considered in calculating the net earnings included: inventory changes; cash receipts; cash expenses; the value of farm products used in the household; and unpaid family labor. Each of these five items was larger in 1941 than in 1940 (Table 1).



▨ Farming-Type Area 3
Livestock and Grain

Larger incomes from livestock and livestock products were, to a considerable extent, responsible for larger cash receipts in 1941 than in 1940. Although cash expenditures were higher, especially for feed and machinery, the total increase in income was greater than the total increase in expenditures; therefore the cash balance showed an increase for 1941.

The accounting farms in this report were larger than the average of all the farms in the area; the crop yields were above average; and the farm operators were more skillful than average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

The averages presented in this report provide a good local yardstick of efficiency. Any farmer keeping farm records can apply this yardstick to his business operations in order to locate the strong and weak places in the management of his farm. The data in Tables 1 to 7 and Figure 1 are particularly well adapted for such a comparison because they contain both measures of earnings and measures of those management factors which are responsible for major variations in farm earnings.

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[1] W. N. Thompson supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm account project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the indicated farm advisers:

H. K. Danforth, Henry County
R. G. Benbow, McDonough County
A. R. Kemp, Knox County
Paul V. Dean, Bureau County
J. E. Watt, Fulton County
L. J. Hager, Marshall-Putnam Counties

I. F. Green, Peoria County
Wayne A. Gilbert, Stark County
L. L. Norton, Hancock County
E. H. Walworth, Warren County
A. J. Rehling, Henderson County
E. M. Edwards, Mercer County

### TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
### Accounting Farms in Farming-Type Area 3, 1938-1941

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1941 | 1940 | 1939 | 1938 |
| Number of farms | -- | 594 | 536 | 511 | 500 |
| Acres per farm | | 241 | 249 | 249 | 247 |
| Inventory Changes | | | | | |
| Farm improvements | $ | $ 51 | $ 88 | $ 187 | $ 127 |
| Livestock | | 1 338 | 596 | 249 | 274 |
| Feed and grain | | 1 023 | -82 | 960 | 22 |
| Machinery and equipment | | 257 | 59 | 122 | 160 |
| Automobile (farm share) | | 29 | -1 | 22 | -2 |
| Total | $ | $2 698 | $ 660 | $1 540 | $ 581 |
| Cash Receipts | | | | | |
| Farm improvements | $ | $ 5 | $ 18 | $ 10 | $ 15 |
| Horses | | 32 | 36 | 55 | 54 |
| Productive livestock: Cattle | | 2 806 | 2 643 | 2 433 | 1 817 |
| Dairy sales | | 475 | 365 | 313 | 342 |
| Hogs | | 3 485 | 2 020 | 2 144 | 2 561 |
| Sheep | | 266 | 264 | 257 | 283 |
| Poultry | | 121 | 94 | 84 | 96 |
| Egg sales | | 173 | 115 | 109 | 116 |
| Total productive livestock | ( ) | (7 326) | (5 501) | (5 340) | (5 215) |
| Feed and grain | | 1 853 | 1 600 | 1 378 | 1 240 |
| Machinery and equipment | | 292 | 244 | 253 | 266 |
| Automobile (farm share) | | 63 | 51 | 55 | 35 |
| Labor off farm | | 40 | 58 | 44 | 58 |
| Miscellaneous | | 22 | 18 | 17 | 10 |
| AAA payments | | 518 | 546 | 782 | 193 |
| Total | $ | $10 151 | $8 072 | $7 934 | $7 086 |
| Cash Expenses | | | | | |
| Farm improvements | $ | $ 417 | $ 429 | $ 479 | $ 389 |
| Horses | | 18 | 24 | 36 | 36 |
| Productive livestock: Cattle | | 1 348 | 1 404 | 1 369 | 955 |
| Hogs | | 190 | 138 | 146 | 142 |
| Sheep | | 236 | 172 | 174 | 179 |
| Poultry | | 30 | 23 | 24 | 24 |
| Total productive livestock | ( ) | (1 804) | (1 737) | (1 713) | (1 300) |
| Feed and grain | | 1 495 | 986 | 1 036 | 755 |
| Machinery and equipment | | 1 281 | 956 | 990 | 994 |
| Automobile (farm share) | | 221 | 167 | 179 | 139 |
| Hired labor | | 515 | 466 | 510 | 474 |
| Miscellaneous | | 42 | 40 | 41 | 40 |
| Crop expense | | 159 | 174 | 170 | 184 |
| Livestock expense | | 84 | 71 | 77 | 77 |
| Taxes | | 343 | 336 | 321 | 298 |
| Total | $ | $6 379 | $5 386 | $5 552 | $4 686 |
| Summary | | | | | |
| Cash balance | $ | $3 772 | $2 686 | $2 382 | $2 400 |
| Farm products used in household | | 293 | 252 | 260 | 278 |
| Total inventory change | | 2 698 | 660 | 1 540 | 581 |
| Receipts less expenses | $ | $6 763 | $3 598 | $4 182 | $3 259 |
| Total unpaid labor | | 764 | 695 | 681 | 699 |
| Net earnings per farm | $ | $5 999 | $2 903 | $3 501 | $2 560 |
| Net earnings per acre | $ | $24.91 | $11.67 | $14.06 | $10.36 |

Inventory changes. The year 1941 was the ninth consecutive year of increasing inventories. The increases during the past four years ranged from $2,698 in 1941 to $581 in 1938 (Table 1). The largest increases in 1941 were for livestock and feed and grain. The average amounts of grain on hand in Area 3 at the two inventory periods were:

| Crop | Beginning of year (bushels) | End of year (bushels) |
|---|---|---|
| Corn | 3 658 | 3 894 |
| Oats | 829 | 839 |
| Wheat | 84 | 63 |
| Soybeans | 212 | 205 |

Summary of cash receipts and cash expenses. Cash receipts exceeded cash expenses in 1941 by $3,772, a larger margin than for any other year during the past four. The cash balance, the difference between cash receipts and expenses, is the amount of money which was available for family living expenses, interest, debt payments, and savings.

Although there was no appreciable change in the amount of family labor available, the total valuation of unpaid labor was higher for 1941 than for any other year in the past four. This increase resulted from the fact that the physical labor of the operator and other members of the family was valued at $55 per month in 1941 and at $50 per month in each of the three previous years.

The net earnings per farm averaged $5,999 in 1941 compared with $2,903 in 1940. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding to the cash balance the value of farm products used in the household and the inventory increases and by subtracting from the resulting total the value of unpaid labor. Therefore this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

Variation in farm earnings. A wide variation was found in earnings on the farms in Area 3. For example, 56 farms earned less than 10 percent on their investment, with an average rate earned of 7.9 percent; but 76 farms earned 22 percent or more, with an average rate earned of 24.6 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had $1,594 for labor and management earnings contrasted with $6,694 for the latter group. The variation in earnings and in size of farm for all the records in the area was as follows:

| Rate earned on investment (percent) | Number of farms | Average rate earned (percent) | Acres per farm | Capital invested per farm | Gross earnings per farm | Net earnings per farm | Labor and management earnings |
|---|---|---|---|---|---|---|---|
| Less than 10.00 | 56 | 7.9 | 223 | $34 055 | $6 326 | $2 702 | $1 594 |
| 10.00 to 13.99 | 143 | 12.2 | 252 | 40 974 | 8 928 | 5 003 | 3 542 |
| 14.00 to 17.99 | 196 | 16.0 | 259 | 40 304 | 10 118 | 6 444 | 5 030 |
| 18.00 to 21.99 | 123 | 19.7 | 220 | 35 216 | 10 381 | 6 948 | 5 771 |
| 22.00 or more | 76 | 24.6 | 220 | 30 978 | 10 956 | 7 622 | 6 694 |

## TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 3, 1941

| Item | Your farm | Standards for your farm | Average of all farms |
|---|---|---|---|
| Rate earned on investment | % | 15.9% | 15.9% |
| Number of farms | -- | -- | 594 |
| Acres in farm |  | 241 | 241 |
| Acres tillable |  | 195 | 195 |
| Acres in crops |  | 155 | 155 |
| Gross earnings per acre | $ | $ a/ | $38.00 |
| Gross expenses per acre |  |  | 13.09 |
| Net earnings per acre | $ | $ | $24.91 |
| **Investments** |  |  |  |
| Value of land per acre | $ | $ 97 | $ 97 |
| Value of improved land per acre |  | a/ | 107 |
| Value of improvements per acre |  | e/ | 20 |
| Total investment per acre |  | 156 | 156 |
| **Land Use** |  |  |  |
| Percent of land area tillable |  | a/ | 80.9 |
| Percent of tillable land in: |  |  |  |
| Corn |  |  | 34.4 |
| Oats |  |  | 18.0 |
| Wheat |  |  | 3.4 |
| Soybeans |  |  | 8.1 |
| Other crops |  |  | 4.0 |
| Legume hay and pasture |  |  | 20.8 |
| Nonlegume hay and pasture |  |  | 11.3 |
| **Crop Yields** |  |  |  |
| Corn, bu. |  | b/ | 68.2 |
| Oats, bu. |  |  | 41.2 |
| Wheat, bu. |  |  | 20.0 |
| Soybeans, bu. |  |  | 24.7 |
| **Livestock Factors** |  |  |  |
| Value of feed fed to productive l.s. | $ | $ 3 884 | $3 884 |
| Feed fed per acre to productive l.s. |  | c/ | 16.13 |
| Returns per $100 worth of feed fed |  |  | 183 |
| Poultry returns per hen |  | 3.85 | 3.85 |
| Number of litters farrowed |  | 28.2 | 28.2 |
| Number of pigs weaned per litter |  | 6.3 | 6.3 |
| Returns per litter farrowed |  | 151 | 151 |
| Average number of cows milked |  | 5.6 | 5.6 |
| Dairy returns per cow milked | $ | $ c/ | 103 |
| **Expense Factors** |  |  |  |
| Horse and machinery cost per crop acre | $ | $ d/ | $ 6.39 |
| Labor cost per crop acre |  |  | 7.98 |
| Total months of labor |  | e/ | 21.8 |
| Number of work horses |  |  | 2.8 |
| Improvement cost per acre | $ | $ | $ 1.50 |
| Land tax per acre |  | a/ | 1.24 |

Source of Standards:

a/ Table 3, value of improved land.
b/ Figure 1, value of improved land.
c/ Table 4, source of income.
d/ Table 6, size of farm and value of feed fed.
e/ Table 5, size of farm.

## CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

### Accounting Farms in Farming-Type Area 3, 1941

The numbers above the lines across the middle of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

|  |  |  | Factors that affect the gross earnings |  |  |  |  |  |  |  |  |  | Factors that affect expenses |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  | Crop yields |  |  |  |  |  |  |  |  |  |  |  |
| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Percent of tillable land in legume hay and pasture | Corn, bu. | Oats, bu. | Soybeans, bu. | Feed fed per acre to prod. l.s. | Returns per $100 feed fed | Poultry returns per hen | Hog returns per litter farrowed | Dairy returns per cow milked | Gross expense per acre | Horse and machinery cost per crop acre | Labor cost per crop acre | Improvement cost per acre |
| 25.9 | 491 |  |  |  |  |  |  |  | 6.35 | 226 |  |  |  |  |  |
| 23.9 | 441 |  |  |  |  |  |  |  | 5.85 | 211 |  |  |  |  |  |
| 21.9 | 391 |  |  |  |  |  |  |  | 5.35 | 196 |  |  |  |  |  |
| 19.9 | 341 |  |  |  |  |  |  |  | 4.85 | 181 |  |  |  |  |  |
| 17.9 | 291 |  |  |  |  |  |  |  | 4.35 | 166 |  |  |  |  |  |
| 15.9 | 241 |  |  |  |  |  |  |  | 3.85 | 151 |  |  |  |  |  |
| 13.9 | 191 |  |  |  |  |  |  |  | 3.35 | 136 |  |  |  |  |  |
| 11.9 | 141 |  |  |  |  |  |  |  | 2.85 | 121 |  |  |  |  |  |
| 9.9 | 91 |  |  |  |  |  |  |  | 2.35 | 106 |  |  |  |  |  |
| 7.9 | 41 |  |  |  |  |  |  |  | 1.85 | 91 |  |  |  |  |  |
| 5.9 | -- |  |  |  |  |  |  |  | 1.35 | 76 |  |  |  |  |  |
| * 2% | 50 | $4 | 2% | 5 | 5 | 3 | $4 | $15 | $.50 | $15 | $10 | $2 | $.50 | $1 | $.30 |

*Each space between lines represents the values indicated at bottom of each column.

### TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 3, 1941

| Item | Value of improved land | | | | | |
|---|---|---|---|---|---|---|
| | $52 or less | $53 to $72 | $73 to $92 | $93 to $112 | $113 to $132 | $133 or more |
| Average value of improved land- | $ 45 | $ 65 | $ 83 | $ 103 | $ 122 | $ 144 |
| Number of farms - - - - - - - - - | 38 | 44 | 106 | 152 | 156 | 98 |
| Acres per farm - - - - - - - - - | 195 | 264 | 262 | 235 | 242 | 232 |
| Percent of land area tillable - | 64.0 | 62.8 | 75.1 | 83.2 | 86.8 | 89.7 |
| Percent of tillable land in: | | | | | | |
| Corn- - - - - - - - - - - - - - | 28.1 | 34.3 | 32.7 | 34.4 | 35.3 | 35.8 |
| Oats- - - - - - - - - - - - - - | 16.2 | 16.3 | 16.2 | 18.7 | 18.6 | 19.1 |
| Wheat - - - - - - - - - - - - - | 4.5 | 5.0 | 5.1 | 2.5 | 2.9 | 2.4 |
| Soybeans- - - - - - - - - - - - | 5.9 | 6.0 | 8.5 | 8.2 | 9.0 | 7.9 |
| Other crops - - - - - - - - - - | 6.0 | 3.3 | 4.5 | 4.5 | 3.8 | 3.3 |
| Legume hay and pasture- - - - | 21.7 | 24.8 | 20.8 | 20.7 | 19.9 | 22.0 |
| Nonlegume hay and pasture - - | 17.6 | 10.3 | 12.2 | 11.0 | 10.5 | 9.5 |
| Gross earnings per acre - - - - | $23.99 | $27.38 | $31.33 | $38.01 | $41.86 | $49.72 |
| Gross expenses per acre - - - - | 10.34 | 10.83 | 11.47 | 13.30 | 13.85 | 15.54 |
| Net earnings per acre - - - - - | $13.65 | $16.55 | $19.86 | $24.71 | $28.01 | $34.18 |
| Land tax per acre - - - - - - - | $ .90 | $ 1.07 | $ 1.10 | $ 1.28 | $ 1.36 | $ 1.34 |

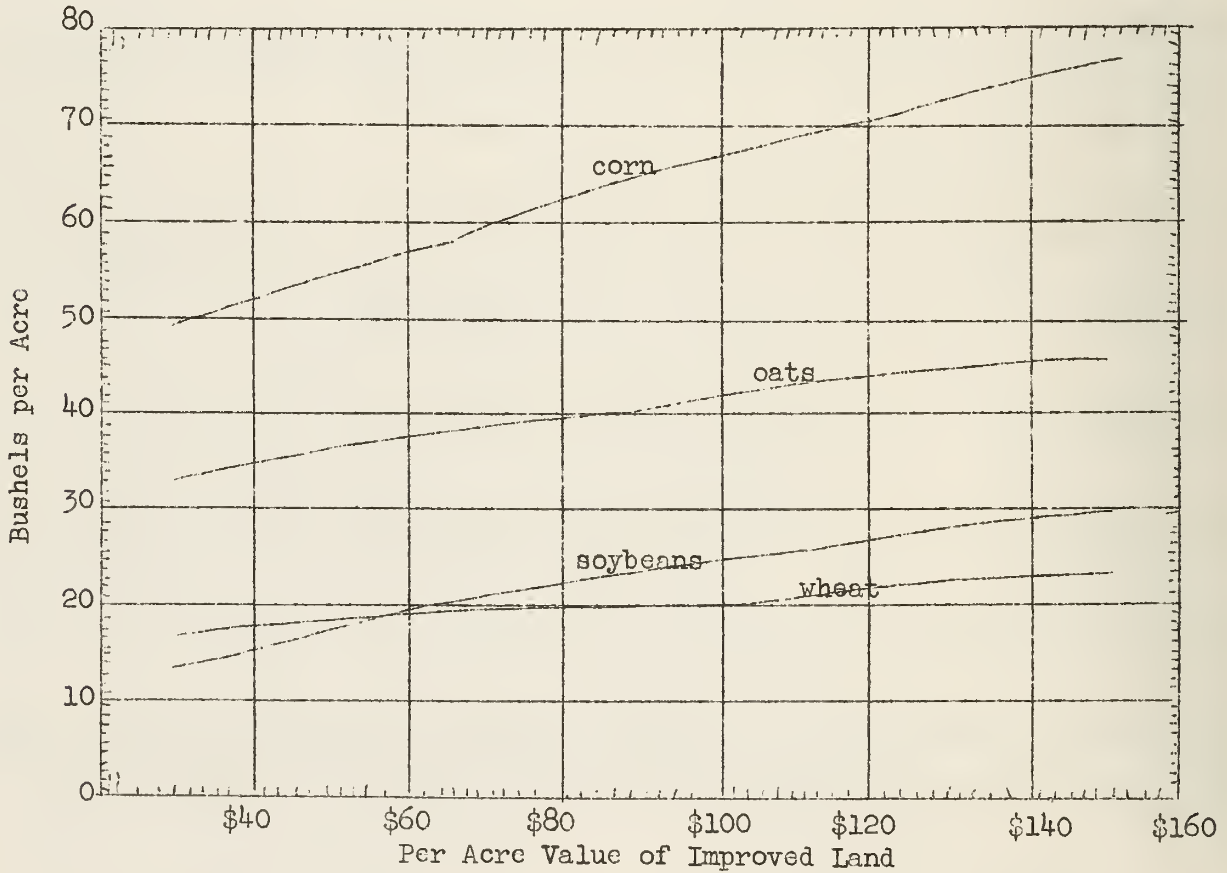

Fig. 1.--Average yields of corn, oats, wheat, and soybeans with varying values of improved land.

## Explanation of Tables

Variable standards are used in the analysis of the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per $100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farms" (Table 2) are taken from Tables 3 to 6 and from Figure 1 as follows:

Table 3 - Value of improved land.
Gross earnings, gross expenses, and net earnings per acre.
Value of improved land per acre.
All items in the land-use section.
Land tax per acre.
Figure 1 - Value of improved land.
Yields for corn, oats, wheat, and soybeans.
Table 4 - Source of income.
Feed fed per acre to productive livestock.
Returns per $100 worth of feed fed.
Dairy returns per cow.
Table 5 - Size of farm.
Value of improvements per acre.
Total months of labor.
Number of work horses.
Improvement cost per acre
Table 6 - Size of farm and amount of feed fed per acre.
Horse and machinery cost per crop acre.
Labor cost per crop acre.

The terms used in the tables are the same as the terms used in the Illinois farm account book. For example, "improved land" is classified on Page 1 of the farm account book. It means tillable land and land occupied by farmstead, roads, and orchards. Likewise, "crop acres" are listed on Page 18, Line 36, of the farm account book. They include all the tillable land on which work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields. The percent of tillable land in grain crops increased as the value per acre of improved land increased from an average of $45 to $144 (Table 3). Likewise the percent of land area tillable, the net earnings per acre, and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, wheat, and soybeans increased as the land value increased (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, his crop yields, and his net earnings per acre were high or low for 1941 in comparison with the average of other farms in his area having about the same value of improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 3, 1941

| Items | Source of income | | | | |
|---|---|---|---|---|---|
| | | | | General farms | |
| | Grain 40%+ | Hogs 40%+ | Cattle 40%+ | L.S. 60%- | L.S. 60%+ |
| Number of farms - - - - - - - - - - | 108 | 309 | 37 | 47 | 93 |
| Percent income from prod. L.S.- - | 36.7 | 88.9 | 92.6 | 55.3 | 71.0 |
| Percent income from crops - - - - | 54.0 | 1.8 | -- | 32.9 | 18.7 |
| Investments | | | | | |
| Total per farm- - - - - - - - - - | $41 480 | $35 655 | $55 976 | $34 620 | $33 942 |
| Total per acre- - - - - - - - - - | 152 | 154 | 175 | 150 | 162 |
| Land per acre - - - - - - - - - - | 105 | 93 | 96 | 96 | 100 |
| Improvements per acre - - - - - | 17 | 21 | 25 | 20 | 21 |
| Machinery per acre- - - - - - - | 9.08 | 9.89 | 9.53 | 9.87 | 11.08 |
| Earnings | | | | | |
| Per farm | | | | | |
| Gross earnings- - - - - - - - | $ 9 380 | $ 9 104 | $13 663 | $ 8 288 | $ 8 210 |
| Gross expenses- - - - - - - - | 3 134 | 3 124 | 5 625 | 2 841 | 2 965 |
| Net earnings- - - - - - - - - | $ 6 246 | $ 5 980 | $ 8 038 | $ 5 447 | $ 5 245 |
| Per acre | | | | | |
| Gross earnings- - - - - - - - | $ 34.36 | $ 39.36 | $ 42.80 | $ 35.96 | $ 39.28 |
| Gross expenses- - - - - - - - | 11.48 | 13.51 | 17.62 | 12.33 | 14.18 |
| Net earnings- - - - - - - - - | $ 22.88 | $ 25.85 | $ 25.18 | $ 23.63 | $ 25.10 |
| Rate earned on investment - - - | 15.1% | 16.8% | 14.4% | 15.7% | 15.5% |
| Labor and mgt. earnings - - - - | $ 4 786 | $ 4 792 | $ 5 783 | $ 4 316 | $ 4 148 |
| Size and Intensity | | | | | |
| Acres per farm - - - - - - - - - | 273 | 231 | 319 | 231 | 209 |
| Percent land area tillable- - - | 87.1 | 79.2 | 73.9 | 81.6 | 81.8 |
| Percent tillable land in grain- | 70.3 | 62.0 | 61.9 | 64.7 | 63.0 |
| Percent in hay and pasture- - - | 24.6 | 35.2 | 34.7 | 29.9 | 33.0 |
| Feed fed per acre to prod. L.S. | $ 7.11 | $ 19.47 | $ 25.43 | $ 10.86 | $ 14.82 |
| Months of labor per 100 crop A. | 10.5 | 15.2 | 14.2 | 13.4 | 15.9 |
| Total months of labor - - - - - | 20.9 | 21.7 | 26.4 | 20.1 | 21.8 |
| Crop Yields Per Acre | | | | | |
| Corn, bu. - - - - - - - - - - - - | 68.4 | 67.1 | 74.5 | 67.6 | 68.7 |
| Oats, bu. - - - - - - - - - - - - | 40.4 | 41.4 | 46.3 | 38.2 | 40.6 |
| Livestock Returns | | | | | |
| Per $100 feed fed - - - - - - - | $ 188 | $ 185 | $ 159 | $ 193 | $ 196 |
| Hog returns per litter -- - - - | 131 | 156 | 152 | 153 | 137 |
| Dairy returns per cow - - - - - | 89 | 96 | 103 | 97 | 126 |
| Expense Factors | | | | | |
| Labor cost per crop acre- - - - | $ 5.77 | $ 8.67 | $ 8.96 | $ 7.50 | $ 9.04 |
| Horse and machinery cost per crop acre - - - - - - - - - - - | 5.11 | 6.87 | 7.11 | 6.05 | 6.70 |
| Improvement cost per acre - - - | 1.23 | 1.57 | 1.89 | 1.28 | 1.52 |
| Land tax per acre - - - - - - - | 1.35 | 1.21 | 1.20 | 1.24 | 1.22 |

Source of income. The grouping of accounting farms according to source of income for 1941 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer should, however, use caution in interpreting the data in Table 4. For example, the fact that hog farms showed the largest rate earned on the investment for 1941 and that cattle farms showed the smallest does not mean that such a relationship will prevail over a long period of years. The relative profitableness of these enterprises in 1941 was due largely to conditions affecting price and production.

In comparing the returns on the various groups of farms per $100 worth of feed fed, one should consider the fact that there is a wide variation in the necessary returns per $100 worth of feed fed which will be necessary to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, $195; dairy cattle, $157; hogs, $127; and feeder cattle, $117.

Furthermore, in a comparison of crop yields for the various types of farming, the following items, which indicate that the grain farms were located on the better land, should be noted: (1) high value of land per acre; (2) large percent of land area tillable; (3) large percent of land in grain; and (4) high land tax per acre.

Differences in expenses are highly significant for the five groups of farms. The labor cost per crop acre ranged from $5.77 on the grain farms to $9.04 on the general farms with the most livestock; the horse and machinery cost per crop acre was highest on the cattle farms, where it averaged $7.11 and lowest on the grain farms, where it averaged $5.11; and the improvement cost per acre averaged $1.89 on the cattle farms and $1.23 on the grain farms.

Size of farm. When the farm records in Farming-Type Area 3 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on the smaller ones; and, after deductions were made for farm business expenditures and interest on the investment, the 35 largest farms had labor and management earnings which averaged $8,123 contrasted with $2,375 for the 69 smallest farms. The rate earned on investment did not differ significantly for the various size groups.

The farms which averaged 166 acres were operated more intensively than were the larger ones. This variation was indicated by the higher gross and net earnings per acre, by the larger labor and capital input per acre, and by the larger value of feed fed per acre to productive livestock.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 3, 1941

| Item | Total acres in farm | | | | | |
|---|---|---|---|---|---|---|
| | Less than 121 | 121 to 200 | 201 to 280 | 281 to 360 | 361 to 440 | 441 or more |
| Number of farms - - - - - - - - - - | 69 | 213 | 144 | 96 | 37 | 35 |
| Acres per farm- - - - - - - - - - - | 99 | 166 | 243 | 326 | 403 | 567 |
| Investments | | | | | | |
| Total per farm- - - - - - - - - - | $15 729 | $28 108 | $37 371 | $52 372 | $62 656 | $72 924 |
| Total per acre- - - - - - - - - - | 159 | 170 | 154 | 161 | 156 | 129 |
| Land per acre - - - - - - - - - - | 95 | 102 | 98 | 102 | 96 | 79 |
| Improvements per acre - - - - - | 24 | 23 | 20 | 20 | 21 | 16 |
| Machinery per acre- - - - - - - | 11.53 | 12.22 | 9.74 | 9.17 | 8.56 | 7.31 |
| Earnings | | | | | | |
| Per farm | | | | | | |
| Gross earnings- - - - - - - - | $ 4 227 | $ 7 100 | $ 9 139 | $12 278 | $14 634 | $17 024 |
| Gross expenses- - - - - - - - | 1 660 | 2 497 | 3 148 | 4 081 | 4 724 | 5 892 |
| Net earnings- - - - - - - - - | $ 2 567 | $ 4 603 | $ 5 991 | $ 8 197 | $ 9 910 | $11 132 |
| Per acre | | | | | | |
| Gross earnings- - - - - - - - | $ 42.83 | $ 42.83 | $ 37.67 | $ 37.69 | $ 36.35 | $ 30.05 |
| Gross expenses- - - - - - - - | 16.82 | 15.06 | 12.98 | 12.53 | 11.73 | 10.40 |
| Net earnings- - - - - - - - - | $ 26.01 | $ 27.77 | $ 24.69 | $ 25.16 | $ 24.62 | $ 19.65 |
| Rate earned on investment - - - | 16.3% | 16.4% | 16.0% | 15.7% | 15.8% | 15.3% |
| Labor and management earnings - | $ 2 375 | $ 3 790 | $ 4 717 | $ 6 175 | $ 7 368 | $ 8 123 |
| Size and Intensity | | | | | | |
| Percent of land area tillable - | 86.2 | 84.6 | 81.7 | 82.3 | 79.4 | 70.4 |
| Percent tillable land in grain- | 62.3 | 63.4 | 64.4 | 63.6 | 66.0 | 65.3 |
| Percent in hay and pasture- - - | 35.1 | 33.8 | 31.8 | 31.7 | 30.5 | 30.0 |
| Feed fed per acre to prod. l.s. | $ 17.63 | $ 19.19 | $ 15.30 | $ 15.60 | $ 15.55 | $ 12.89 |
| Percent of income from prod.l.s. | 78.7 | 81.5 | 72.8 | 72.3 | 73.1 | 72.0 |
| Percent of income from crops- - | 9.9 | 8.7 | 17.5 | 19.1 | 17.7 | 18.4 |
| Months of labor per 100 crop A. | 20.9 | 16.6 | 13.9 | 12.5 | 11.5 | 10.8 |
| Total months of labor - - - - - | 14.0 | 18.4 | 22.0 | 26.5 | 29.5 | 35.2 |
| Number of work horses - - - - - | 2.2 | 2.5 | 2.7 | 3.1 | 3.7 | 3.6 |
| Crop Yields per Acre | | | | | | |
| Corn, bu. - - - - - - - - - - - - | 64.2 | 69.1 | 68.4 | 69.6 | 67.9 | 64.7 |
| Oats, bu. - - - - - - - - - - - - | 41.0 | 41.1 | 40.9 | 42.1 | 41.9 | 39.4 |
| Livestock Returns | | | | | | |
| Per $100 feed fed - - - - - - - | $ 202 | $ 189 | $ 186 | $ 180 | $ 175 | $ 172 |
| Hog returns per litter- - - - - | 142 | 150 | 152 | 155 | 151 | 153 |
| Dairy returns per cow - - - - - | 91 | 103 | 100 | 103 | 119 | 114 |
| Expense Factors | | | | | | |
| Labor cost per crop acre- - - - | $ 11.53 | $ 9.22 | $ 7.82 | $ 7.37 | $ 6.68 | $ 6.45 |
| Horse and machinery cost per crop acre - - - - - - - - - - | 6.98 | 7.04 | 6.16 | 6.11 | 5.97 | 6.13 |
| Improvement cost per acre - - - | 1.71 | 1.66 | 1.54 | 1.46 | 1.54 | 1.10 |
| Land tax per acre - - - - - - - | 1.32 | 1.30 | 1.22 | 1.24 | 1.26 | 1.17 |

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses. Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases, but decrease as the size of farm increases. Therefore the efficiency of a farm in the use of labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 3, 1941

| Acres per farm | Feed fed per acre | | | | Feed fed per acre | | | |
|---|---|---|---|---|---|---|---|---|
| | Less than $10.00 | $10.00 to $17.99 | $18.00 to $25.99 | $26.00 or more | Less than $10.00 | $10.00 to $17.99 | $18.00 to $25.99 | $26.00 or more |
| | (labor cost per crop acre) | | | | (horse and machinery cost per crop acre) | | | |
| Less than 121 | $11.09 | $11.23 | $12.17 | $12.75 | $6.30 | $6.49 | $7.82 | $9.70 |
| 121 to 200 | 8.33 | 8.56 | 9.53 | 11.44 | 5.76 | 6.30 | 7.20 | 8.73 |
| 201 to 280 | 6.66 | 8.14 | 8.94 | 10.20 | 5.32 | 6.07 | 6.76 | 7.42 |
| 281 to 360 | 5.75 | 7.50 | 8.72 | 9.79 | 4.52 | 5.99 | 6.70 | 7.17 |
| 361 to 440 | 5.30 | 7.27 | 7.61 | 8.59 | 4.50 | 5.90 | 6.60 | 7.00 |
| 441 or more | 4.78 | 6.60 | 7.50 | 7.70 | 5.06 | 6.10 | 6.34 | 6.50 |

## Producing for War Needs

In any given period gross receipts for hogs, cattle, dairy sales, eggs, and grain are relative measures of production (Table 7). Therefore the account keeper should use these standards to compare his own production with that of other account keepers. He should then adopt on his farm the kind of farm plan and the management practices that will make the best possible use of land, buildings, livestock, labor, machinery, and other resources for the duration of the war. Thus he will have more products to put on the nation's markets and so will be making the greatest possible contribution to the war effort.

## TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
### Accounting Farms in Farming-Type Area 3, 1938-1941

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1941 | 1940 | 1939 | 1938 |
| Number of farms | -- | 594 | 536 | 511 | 500 |
| Capital Investments | | | | | |
| Land | $ | $23 338 | $23 757 | $23 904 | $23 731 |
| Farm improvements | | 4 903 | 5 023 | 4 943 | 4 537 |
| Horses | | 261 | 312 | 367 | 412 |
| Productive livestock: Cattle | | 2 390 | 2 244 | 2 000 | 1 561 |
| Hogs | | 1 012 | 969 | 1 120 | 1 132 |
| Sheep | | 159 | 144 | 132 | 169 |
| Poultry | | 85 | 83 | 89 | 90 |
| Total productive livestock | ( ) | (3 646) | (3 440) | (3 341) | (2 952 |
| Feed and grain | | 3 108 | 3 555 | 2 859 | 2 886 |
| Machinery and equipment | | 2 157 | 2 198 | 2 167 | 2 016 |
| Automobile (farm share) | | 217 | 208 | 188 | 181 |
| Total | $ | $37 630 | $38 493 | $37 769 | $36 715 |
| Receipts and Net Increases | | | | | |
| Horses | $ | $ -- | $ -- | $ -- | $ -- |
| Productive livestock: Cattle | | 1 896 | 1 728 | 1 437 | 1 179 |
| Dairy sales | | 475 | 365 | 313 | 342 |
| Hogs | | 4 092 | 1 986 | 1 898 | 2 417 |
| Sheep | | 142 | 127 | 95 | 92 |
| Poultry | | 120 | 75 | 57 | 73 |
| Egg sales | | 173 | 115 | 109 | 116 |
| Total productive livestock | ( ) | (6 898) | (4 396) | (3 909) | 4 219 |
| Farm products used in household | | 293 | 252 | 260 | 278 |
| Feed and grain | | 1 381 | 532 | 1 302 | 507 |
| Labor off farm | | 40 | 58 | 44 | 58 |
| Miscellaneous | | 22 | 18 | 17 | 10 |
| AAA payments | | 518 | 546 | 782 | 193 |
| Total | $ | $ 9 152 | $ 5 802 | $ 6 314 | $ 5 265 |
| Expenses and Net Decreases | | | | | |
| Farm improvements | $ | $ 361 | $ 323 | $ 282 | $ 247 |
| Horses | | 24 | 24 | 14 | 12 |
| Productive livestock | | -- | -- | -- | -- |
| Feed and grain | | -- | -- | -- | -- |
| Machinery and equipment | | 732 | 653 | 615 | 568 |
| Automobile (farm share) | | 129 | 117 | 102 | 106 |
| Hired labor | | 515 | 466 | 510 | 474 |
| Miscellaneous | | 42 | 40 | 41 | 40 |
| Crop expense | | 159 | 174 | 170 | 184 |
| Livestock expense | | 84 | 71 | 77 | 77 |
| Taxes | | 343 | 336 | 321 | 298 |
| Total | $ | $ 2 389 | $ 2 204 | $ 2 132 | $ 2 006 |
| Receipts less expenses | $ | $ 6 763 | $ 3 598 | $ 4 182 | $ 3 259 |
| Family labor | | 168 | 168 | 162 | 171 |
| Returns for labor, capital, mgt. | $ | $ 6 595 | $ 3 430 | $ 4 020 | $ 3 088 |
| Operator's labor | | 596 | 527 | 519 | 528 |
| Net earnings per farm | $ | $ 5 999 | $ 2 903 | $ 3 501 | $ 2 560 |
| Rate Earned on Investment | % | 15.9% | 7.5% | 9.3% | 7.0 |
| Interest on investment | $ | $ 1 881 | $ 1 924 | $ 1 889 | $ 1 835 |
| Labor and Management Earnings | | 4 714 | 1 506 | 2 131 | 1 253 |
| Nonfarm income | $ | $ 54 | $ 30 | $ 46 | $ 61 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United States Department of Agriculture cooperating. H. P. Rusk, *Director*. Acts approved by Congress May 8 and June 30, 1914.

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# FARM BUSINESS REPORT . . . 1941

The farmer contributes most to the war effort by efficiently using his land, labor, machinery, and other available resources

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## FARMING-TYPE AREA FOUR
## East Central Cash Grain Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

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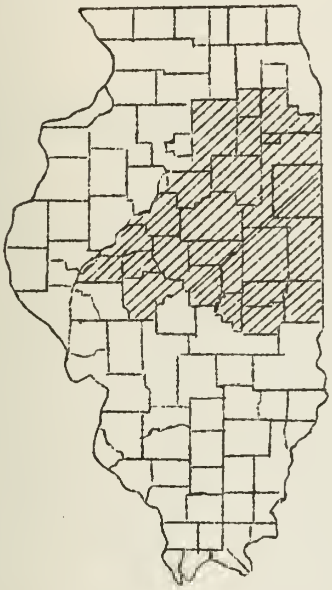
Annual Farm Business Report

## ON SEVEN HUNDRED THREE FARMS IN FARMING-TYPE AREA 4, 1941

By P. E. Johnston, J. B. Cunningham, and R. J. Mutti[1]

Farm earnings of accounting farms in Farming-Type Area 4 were much higher in 1941 than in 1940. The average net earnings per acre were $22.69 in 1941, $10.19 in 1940, $12.60 in 1939, and $9.67 in 1938. The items considered in calculating the net earnings included: inventory changes; cash receipts; cash expenses; the value of farm products used in the household; and unpaid family labor. Each of these five items was larger in 1941 than in 1940 (Table 1).



▨ Farming-Type Area 4
Cash grain

Larger incomes from livestock and livestock products were, to a considerable extent, responsible for larger cash receipts in 1941 than in 1940. Although cash expenditures were higher, especially for feed and machinery, the total increase in income was greater than the total increase in expenditures; therefore the cash balance showed an increase for 1941.

The accounting farms in this report were larger than the average of all the farms in the area, the crop yields were above average, and the farm operators were more skillful than average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

The averages presented in this report provide a good local yardstick of efficiency. Any farmer keeping farm records can apply this yardstick to his business operations in order to locate the strong and weak places in the management of his farm. The data in Tables 1 to 7 and Figure 1 are particularly well adapted for such a comparison because they contain both measures of earnings and measures of those management factors which are responsible for major variations in farm earnings.

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[1] W. N. Thompson supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm account project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the indicated farm advisers:

J. E. Harris, Champaign County
H. D. Triplett, Ford County
H. D. VanMatre, Iroquois County
Edwin Bay, Sangamon County
I. E. Parett, Vermilion County
G. T. Swaim, Kankakee County
L. W. Braham, Will County
Paul M. Krows, Moultrie County
J. R. Gilkey, Macon County
R. V. Watson, Mason County

N. H. Anderson, Logan County
H. N. Myers, DeWitt County
W. P. Miller, Kendall County
L. W. Chalcraft, Menard County
G. H. Husted, Cass County
L. E. McKinzie, Edgar County
J. Q. Scott, Douglas County
E. O. Johnston, Piatt County
W. S. Myers, Coles County

TABLE 1.--INVENTORY CHANGES, CASH RECEIPTS, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 4, 1938-1941

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1941 | 1940 | 1939 | 1938 |
| Number of farms | -- | 703 | 582 | 559 | 767 |
| Acres per farm | | 265 | 271 | 268 | 263 |
| **Inventory Changes** | | | | | |
| Farm improvements | $ | $ 76 | $ 83 | $ 155 | $ 116 |
| Livestock | | 797 | 270 | 159 | 107 |
| Feed and grain | | 1 416 | -104 | 994 | 134 |
| Machinery and equipment | | 261 | 104 | 99 | 162 |
| Automobile (farm share) | | 29 | 15 | 10 | -- |
| Total | $ | $2 579 | $ 368 | $1 417 | $ 519 |
| **Cash Receipts** | | | | | |
| Farm improvements | $ | $ 9 | $ 17 | $ 13 | $ 12 |
| Horses | | 40 | 47 | 62 | 80 |
| Productive livestock: Cattle | | 1 762 | 1 624 | 1 382 | 1 312 |
| Dairy sales | | 553 | 418 | 367 | 491 |
| Hogs | | 1 701 | 1 012 | 945 | 1 283 |
| Sheep | | 128 | 88 | 118 | 180 |
| Poultry | | 149 | 111 | 102 | 118 |
| Egg sales | | 225 | 156 | 130 | 172 |
| Total productive livestock | ( ) | (4 518) | (3 409) | (3 044) | (3 556) |
| Feed and grain | | 3 571 | 2 801 | 2 466 | 2 355 |
| Machinery and equipment | | 311 | 291 | 280 | 313 |
| Automobile (farm share) | | 61 | 52 | 38 | 36 |
| Labor off farm | | 39 | 40 | 50 | 67 |
| Miscellaneous | | 10 | 9 | 11 | 7 |
| AAA payments | | 525 | 577 | 679 | 250 |
| Total | $ | $9 084 | $7 243 | $6 643 | $6 676 |
| **Cash Expenses** | | | | | |
| Farm improvements | $ | $ 398 | $ 383 | $ 421 | $ 401 |
| Horses | | 22 | 22 | 33 | 34 |
| Productive livestock: Cattle | | 890 | 873 | 782 | 702 |
| Hogs | | 129 | 87 | 115 | 107 |
| Sheep | | 68 | 56 | 64 | 108 |
| Poultry | | 39 | 30 | 30 | 33 |
| Total productive livestock | ( ) | (1 126) | (1 046) | ( 991) | ( 950) |
| Feed and grain | | 804 | 530 | 535 | 434 |
| Machinery and equipment | | 1 402 | 1 122 | 1 042 | 1 138 |
| Automobile (farm share) | | 227 | 189 | 164 | 155 |
| Hired labor | | 486 | 436 | 432 | 458 |
| Miscellaneous | | 34 | 30 | 29 | 36 |
| Crop expense | | 175 | 172 | 153 | 184 |
| Livestock expense | | 65 | 52 | 56 | 54 |
| Taxes | | 398 | 397 | 373 | 360 |
| Total | $ | $5 137 | $4 379 | $4 229 | $4 204 |
| **Summary** | | | | | |
| Cash balance | $ | $3 947 | $2 864 | $2 414 | $2 472 |
| Farm products used in household | | 273 | 225 | 235 | 265 |
| Total inventory change | | 2 579 | 368 | 1 417 | 519 |
| Receipts less expenses | $ | $6 799 | $3 457 | $4 066 | $3 256 |
| Total unpaid labor | | 785 | 696 | 695 | 712 |
| Net earnings per farm | $ | $6 014 | $2 761 | $3 371 | $2 544 |
| Net earnings per acre | $ | $22.69 | $10.19 | $12.60 | $ 9.67 |

Inventory changes. The year 1941 was the ninth consecutive year of increasing inventories. The increases during the past four years ranged from $2 579 in 1941 to $368 in 1940 (Table 1). The largest increases in 1941 were for livestock and feed and grain. The average amounts of grain on hand in Area 4 at the two inventory periods were:

| Crop | Beginning of year (bushels) | End of year (bushels) |
|---|---|---|
| Corn | 3 662 | 4 346 |
| Oats | 941 | 978 |
| Wheat | 191 | 195 |
| Soybeans | 396 | 374 |

Summary of cash receipts and cash expenses. Cash receipts exceeded cash expenses in 1941 by $3 947, a larger margin than for any other year during the past four. The cash balance, the difference between cash receipts and expenses, is the amount of money which was available for family living expenses, interest, debt payments, and savings.

Although there was no appreciable change in the amount of family labor available, the total valuation of unpaid labor was higher for 1941 than for any other year in the past four. This increase resulted from the fact that the physical labor of the operator and other members of the family was valued at $55 per month in 1941 and at $50 per month in each of the three previous years.

The net earnings per farm averaged $6 014 in 1941 compared with $2 761 in 1940. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding to the cash balance the value of farm products used in the household and the inventory increases and by subtracting from the resulting total the value of unpaid labor. Therefore this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

Variation in farm earnings. A wide variation was found in earnings on the farms in Area 4. For example, 95 farms earned less than ten percent on their investment, with an average rate earned of 7.9 percent; but 32 farms earned twenty-two percent or more, with an average rate earned of 24.1 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had $1 685 for labor and management earnings contrasted with $7 516 for the latter group. The variation in earnings and in size of farm for all the records in the area was as follows:

| Rate earned on investment (percent) | Number of farms | Average rate earned (percent) | Acres per farm | Capital invested per farm | Gross earnings per farm | Net earnings per farm | Labor and management earnings |
|---|---|---|---|---|---|---|---|
| Less than 10.00 | 95 | 7.9 | 227 | $37 637 | $ 6 310 | $2 980 | $1 685 |
| 10.00 to 13.99 | 251 | 12.1 | 257 | 41 637 | 8 383 | 5 041 | 3 545 |
| 14.00 to 17.99 | 223 | 15.8 | 285 | 45 580 | 10 588 | 7 183 | 5 494 |
| 18.00 to 21.99 | 102 | 19.6 | 273 | 40 092 | 11 093 | 7 841 | 6 468 |
| 22.00 or more | 32 | 24.1 | 276 | 35 977 | 12 526 | 8 683 | 7 516 |

## TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 4, 1941

| Item | Your farm | Standards for your farm | Average of all farms |
|---|---|---|---|
| Rate earned on investment | % | 14.4% | 14.4% |
| Number of farms | -- | -- | 703 |
| Acres in farm |  | 265 | 265 |
| Acres tillable |  | 239 | 239 |
| Acres in crops |  | 197 | 197 |
| Gross earnings per acre | $ | $ a/ | $34.92 |
| Gross expenses per acre |  |  | 12.23 |
| Net earnings per acre |  |  | 22.69 |
| Investments |  |  |  |
| Value of land per acre | $ | $ 109 | $ 109 |
| Value of improved land per acre |  | a/ | 113 |
| Value of improvements per acre |  | e/ | 16 |
| Total investment per acre |  | 158 | 158 |
| Land Use |  |  |  |
| Percent of land area tillable |  | a/ | 90.0 |
| Percent of tillable land in: |  |  |  |
| Corn |  |  | 30.9 |
| Oats |  |  | 14.9 |
| Wheat |  |  | 7.6 |
| Soybeans |  |  | 17.1 |
| Other crops |  |  | 4.7 |
| Legume hay and pasture |  |  | 16.3 |
| Nonlegume hay and pasture |  |  | 8.5 |
| Crop Yields |  | b/ |  |
| Corn, bu. |  |  | 65.6 |
| Oats, bu. |  |  | 49.1 |
| Wheat, bu. |  |  | 23.1 |
| Soybeans, bu. |  |  | 25.5 |
| Livestock Factors |  |  |  |
| Value of feed fed to productive livestock | $ | $2 468 | $2 468 |
| Feed fed per acre to productive livestock |  | c/ | 9.31 |
| Returns per $100 worth of feed fed |  |  | 180 |
| Poultry returns per hen |  | 3.75 | 3.75 |
| Number of litters farrowed |  | 16.2 | 16.2 |
| Number of pigs weaned per litter |  | 6.3 | 6.3 |
| Returns per litter farrowed | $ | $ 144 | $ 144 |
| Average number of cows milked |  | 5.8 | 5.8 |
| Dairy returns per cow milked | $ | $ c/ | $ 111 |
| Expense Factors |  |  |  |
| Horse and machinery cost per crop acre | $ | $ d/ | $ 5.50 |
| Labor cost per crop acre |  |  | 6.04 |
| Total months of labor |  | e/ | 22.2 |
| Number of work horses |  |  | 2.8 |
| Improvement cost per acre | $ | $ | $ 1.18 |
| Land tax per acre |  | a/ | 1.34 |

Source of Standards:
a/ Table 3, value of improved land.
b/ Fig. 1, value of improved land.
c/ Table 4, source of income.
d/ Table 6, size of farm and value of feed fed.
e/ Table 5, size of farm.

## CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

### Accounting Farms in Farming-Type Area 4, 1941

The numbers above the lines across the middle of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

| | | | Factors that affect the gross earnings | | | | | | | | | | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Crop yields | | | | | | | | | | | |
| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Percent of tillable land in legume hay and pasture | Corn, bu. | Oats, bu. | Soybeans, bu. | Feed fed per acre to prod. l.s. | Returns per $100 feed fed | Poultry returns per hen | Hog returns per litter farrowed | Dairy returns per cow milked | Gross expense per acre | Horse and machinery cost per crop acre | Labor cost per crop acre | Improvement cost per acre |
| 24.4 | 515 | | | | | | | | 6.25 | 219 | | | | | |
| 22.4 | 465 | | | | | | | | 5.75 | 204 | | | | | |
| 20.4 | 415 | | | | | | | | 5.25 | 189 | | | | | |
| 18.4 | 365 | | | | | | | | 4.75 | 174 | | | | | |
| 16.4 | 315 | | | | | | | | 4.25 | 159 | | | | | |
| 14.4 | 265 | | | | | | | | 3.75 | 144 | | | | | |
| 12.4 | 215 | | | | | | | | 3.25 | 129 | | | | | |
| 10.4 | 165 | | | | | | | | 2.75 | 114 | | | | | |
| 8.4 | 115 | | | | | | | | 2.25 | 99 | | | | | |
| 6.4 | 65 | | | | | | | | 1.75 | 84 | | | | | |
| 4.4 | -- | | | | | | | | 1.25 | 69 | | | | | |
| * 2% | 50 | $4 | 2% | 5 | 5 | 3 | $2 | $15 | $.50 | $15 | $10 | $2 | $.50 | $1 | $.30 |

* Each space between lines represents the values indicated at bottom of each column.

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 4, 1941

| Item | Value of Improved Land | | | | | |
|---|---|---|---|---|---|---|
| | Less than $53 | $53 to $72 | $73 to $92 | $93 to $112 | $113 to $132 | More than $132 |
| Average value of improved land- - - | $ 42 | $ 65 | $ 84 | $ 103 | $ 123 | $ 146 |
| Number of farms - - - - - - - - - - - | 25 | 48 | 74 | 173 | 221 | 162 |
| Acres per farm- - - - - - - - - - - - | 315 | 242 | 287 | 270 | 255 | 262 |
| Percent of land area tillable - - - | 80.2 | 80.0 | 85.7 | 88.7 | 93.0 | 94.3 |
| Percent of tillable land in: | | | | | | |
| Corn- - - - - - - - - - - - - - - - - | 26.1 | 27.0 | 28.6 | 31.5 | 32.1 | 31.7 |
| Oats- - - - - - - - - - - - - - - - - | 12.4 | 14.7 | 13.3 | 15.9 | 15.8 | 13.7 |
| Wheat - - - - - - - - - - - - - - - - | 12.6 | 10.0 | 10.7 | 7.1 | 6.4 | 6.4 |
| Soybeans- - - - - - - - - - - - - - - | 6.8 | 10.5 | 14.6 | 16.0 | 17.4 | 21.9 |
| Other crops - - - - - - - - - - - - - | 15.6 | 6.1 | 4.7 | 5.6 | 3.9 | 3.5 |
| Legume hay and pasture- - - - - - | 18.0 | 19.6 | 19.2 | 15.7 | 15.7 | 15.4 |
| Nonlegume hay and pasture - - - - | 8.5 | 12.1 | 8.9 | 8.2 | 8.7 | 7.4 |
| Gross earnings per acre - - - - - - | $18.65 | $25.81 | $30.12 | $34.52 | $37.70 | $39.56 |
| Gross expenses per acre - - - - - - | 8.42 | 10.51 | 11.54 | 12.18 | 12.78 | 13.09 |
| Net earnings per acre - - - - - - - | $10.23 | $15.30 | $18.58 | $22.34 | $24.92 | $26.47 |
| Land tax per acre - - - - - - - - - - | $ .90 | $ 1.05 | $ 1.13 | $ 1.29 | $ 1.42 | $ 1.53 |

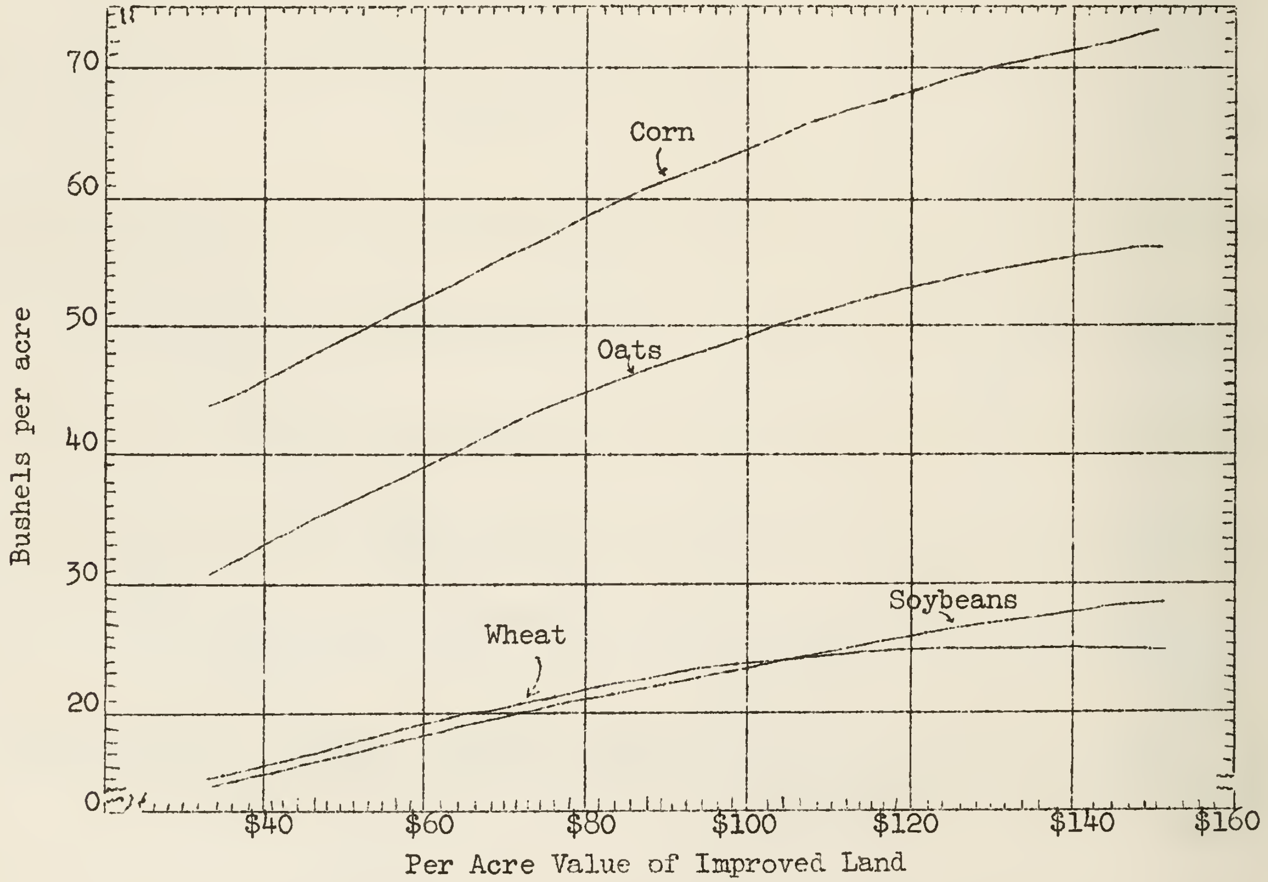

Fig. 1.--Average yields of corn, oats, wheat, and soybeans with varying values of improved land.

## Explanation of Tables

Variable standards are used in the analysis of the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per $100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farms" (Table 2) are taken from Tables 3 to 6 and from Figure 1 as follows:

- Table 3 - Value of improved land.
  - Gross earnings, gross expenses, and net earnings per acre.
  - Value of improved land per acre.
  - All items in the land-use section.
  - Land tax per acre.
- Figure 1 - Value of improved land.
  - Yields for corn, oats, wheat, and soybeans.
- Table 4 - Source of income.
  - Feed fed per acre to productive livestock.
  - Returns per $100 worth of feed fed.
  - Dairy returns per cow.
- Table 5 - Size of farm.
  - Value of improvements per acre.
  - Total months of labor.
  - Number of work horses.
  - Improvement cost per acre.
- Table 6 - Size of farm and amount of feed fed per acre.
  - Horse and machinery cost per crop acre.
  - Labor cost per crop acre.

The terms used in the tables are the same as the terms used in the Illinois farm account book. For example, "improved land" is classified on Page 1 of the farm account book. It means tillable land and land occupied by farmstead, roads, and orchards. Likewise, "crop acres" are listed on Page 18, Line 36, of the farm account book. They include all the tillable land on which work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields. The percent of tillable land in grain crops increased as the value per acre of improved land increased from an average of $42 to $146 (Table 3). Likewise the percent of land area tillable, the net earnings per acre, and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture was higher on farms with low valued land than on farms with high valued land.

Yields per acre for corn, oats, wheat, and soybeans increased as the land value increased (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, his crop yields, and his net earnings per acre were high or low for 1941 in comparison with the average of other farms in his area having about the same value of improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 4, 1941

| Items | Source of income | | | | | |
|---|---|---|---|---|---|---|
| | | | | | General farms | |
| | Grain 40%+ | Dairy sales 40%+ | Hogs 40%+ | Cattle 40%+ | L.S. 60%- | L.S. 60%+ |
| Number of farms - - - - - - - - - - | 433 | 13 | 91 | 24 | 76 | 66 |
| Percent of income from prod. L.S. | 29.3 | 75.7 | 81.7 | 92.6 | 54.1 | 70.2 |
| Percent of income from crops- - - | 61.6 | 15.8 | 9.6 | -- | 34.4 | 20.8 |
| Investments | | | | | | |
| Total per farm- - - - - - - - - - | $44 269 | $25 652 | $35 947 | $63 205 | $33 128 | $39 752 |
| Total per acre- - - - - - - - - - | 159 | 147 | 161 | 166 | 146 | 159 |
| Land per acre - - - - - - - - - - | 115 | 84 | 103 | 102 | 98 | 98 |
| Improvements per acre - - - - - | 15 | 27 | 20 | 16 | 16 | 22 |
| Machinery per acre- - - - - - - | 9.57 | 10.40 | 10.25 | 8.27 | 9.45 | 10.15 |
| Earnings | | | | | | |
| Per farm | | | | | | |
| Gross earnings- - - - - - - - | $ 9 545 | $ 5 852 | $ 8 491 | $15 132 | $ 7 464 | $ 9 261 |
| Gross expenses- - - - - - - - | 3 253 | 2 860 | 3 038 | 5 527 | 2 852 | 3 391 |
| Net earnings- - - - - - - - - | $ 6 292 | $ 2 992 | $ 5 453 | $ 9 605 | $ 4 612 | $ 5 870 |
| Per acre | | | | | | |
| Gross earnings- - - - - - - - | $ 34.18 | $ 33.48 | $ 37.94 | $ 39.65 | $ 32.99 | $ 37.10 |
| Gross expenses- - - - - - - - | 11.65 | 16.36 | 13.58 | 14.48 | 12.61 | 13.59 |
| Net earnings- - - - - - - - - | $ 22.53 | $ 17.12 | $ 24.36 | $ 25.17 | $ 20.38 | $ 23.51 |
| Rate earned on investment - - - | 14.2% | 11.7% | 15.2% | 15.2% | 13.9% | 14.8% |
| Labor and management earnings - | $ 4 674 | $ 2 340 | $ 4 263 | $ 6 999 | $ 3 545 | $ 4 479 |
| Size and Intensity | | | | | | |
| Acres per farm- - - - - - - - - | 279 | 175 | 224 | 382 | 226 | 250 |
| Percent of land area tillable - | 91.8 | 80.8 | 84.9 | 86.5 | 89.7 | 87.3 |
| Percent tillable land in grain- | 73.4 | 56.7 | 67.5 | 61.7 | 66.5 | 65.8 |
| Percent in hay and pasture- - - | 21.7 | 39.5 | 29.9 | 32.9 | 29.2 | 31.2 |
| Feed fed per acre to prod. L.S. | $ 5.58 | $ 12.89 | $ 18.16 | $ 25.70 | $ 10.23 | $ 15.18 |
| Months of labor per 100 crop A. | 9.9 | 21.9 | 14.1 | 12.8 | 13.2 | 14.2 |
| Total months of labor - - - - - | 21.5 | 22.9 | 21.6 | 32.8 | 21.4 | 24.5 |
| Crop Yields Per Acre | | | | | | |
| Corn, bu. - - - - - - - - - - - - | 65.7 | 59.9 | 66.1 | 70.5 | 62.8 | 65.0 |
| Soybeans, bu. - - - - - - - - - - | 25.9 | 17.8 | 23.8 | 27.5 | 22.9 | 24.4 |
| Livestock Returns | | | | | | |
| Per $100 feed fed - - - - - - - | $ 193 | $ 205 | $ 176 | $ 145 | $ 185 | $ 178 |
| Hog returns per litter- - - - - | 139 | 157 | 150 | 149 | 141 | 140 |
| Dairy returns per cow - - - - - | 103 | 174 | 97 | 110 | 115 | 128 |
| Expense Factors | | | | | | |
| Labor cost per crop acre- - - - | $ 5.56 | $ 11.52 | $ 7.85 | $ 7.08 | $ 7.12 | $ 7.91 |
| Horse and machinery cost per crop acre - - - - - - - - - | 5.16 | 9.25 | 6.32 | 6.51 | 5.67 | 6.13 |
| Improvement cost per acre - - - | 1.06 | 1.53 | 1.48 | 1.33 | 1.24 | 1.47 |
| Land tax per acre - - - - - - - | 1.37 | 1.13 | 1.32 | 1.35 | 1.29 | 1.25 |

Source of income. The grouping of accounting farms according to source of income for 1941 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer should, however, use caution in interpreting the data in Table 4. For example, the fact that hog and cattle farms showed the largest rate earned on the investment for 1941 and that dairy farms showed the smallest does not mean that such a relationship will prevail over a long period of years. The relative profitableness of these enterprises in 1941 was due largely to conditions affecting price and production.

In comparing the returns on the various groups of farms per $100 worth of feed fed, one should consider the fact that there is a wide variation in the necessary returns per $100 worth of feed fed which is necessary to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, $195; dairy cattle, $157; hogs, $127; and feeder cattle, $117.

Furthermore, in a comparison of crop yields for the various types of farming, the following items, which indicate that the grain farms were located on the better land, should be noted: (1) high value of land per acre; (2) large percent of land area tillable; (3) large percent of land in grain; and (4) high land tax per acre.

Differences in expenses are highly significant for the six groups of farms. Labor input per 100 crop acres was highest on the dairy farms, where 21.9 months of labor were used, and lowest on the grain farms, where 9.9 months of labor were used. The dairy farmers evidently utilized a large amount of available labor to increase the size of their businesses without increasing the size of their farms.

The labor cost per crop acre ranged from $5.56 on the grain farms to $11.52 on the dairy farms; the horse and machinery cost per crop acre was highest on the dairy farms where it averaged $9.25 and lowest on the grain farms, where it averaged $5.16; and the improvement cost per acre averaged $1.53 on the dairy farms and $1.06 on the grain farms.

Size of farm. When the farm records in Farming-Type Area 4 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on the smaller ones; and, after deductions were made for farm business expenditures and interest on the investment, the 63 largest farms had labor and management earnings which averaged $8 814 contrasted with $1 898 for the 55 smallest farms. The rate earned on investment was smallest on the two groups of farms under 200 acres in size, and did not differ significantly for the other size groups.

The smaller farms were operated more intensively than were the larger ones. This variation was indicated by the higher gross earnings per acre, by the larger labor and capital input per acre, and by the higher value of feed fed per acre to productive livestock.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 4, 1941

| | Total acres in farm | | | | | |
|---|---|---|---|---|---|---|
| Item | Less than 121 | 121 to 200 | 201 to 280 | 281 to 360 | 361 to 440 | 441 or more |
| Number of farms | 55 | 215 | 184 | 129 | 57 | 63 |
| Acres per farm | 103 | 167 | 242 | 320 | 400 | 575 |
| Investments | | | | | | |
| Total per farm | $17 431 | $28 156 | $39 367 | $48 472 | $62 092 | $84 900 |
| Total per acre | 169 | 169 | 163 | 152 | 155 | 148 |
| Land per acre | 105 | 114 | 114 | 108 | 109 | 103 |
| Improvements per acre | 25 | 20 | 17 | 15 | 14 | 14 |
| Machinery per acre | 13.21 | 11.43 | 10.27 | 9.17 | 8.36 | 7.82 |
| Earnings | | | | | | |
| Per farm | | | | | | |
| Gross earnings | $ 3 994 | $ 6 215 | $ 8 666 | $10 819 | $13 897 | $18 569 |
| Gross expenses | 1 816 | 2 352 | 3 081 | 3 648 | 4 465 | 6 073 |
| Net earnings | $ 2 178 | $ 3 863 | $ 5 585 | $ 7 171 | $ 9 432 | $12 496 |
| Per acre | | | | | | |
| Gross earnings | $ 38.74 | $ 37.26 | $ 35.81 | $ 33.81 | $ 34.77 | $ 32.26 |
| Gross expenses | 17.61 | 14.10 | 12.73 | 11.40 | 11.17 | 10.55 |
| Net earnings | $ 21.13 | $ 23.16 | $ 23.08 | $ 22.41 | $ 23.60 | $ 21.71 |
| Rate earned on investment | 12.5% | 13.7% | 14.2% | 14.8% | 15.2% | 14.7% |
| Labor and management earnings | $ 1 898 | $ 3 057 | $ 4 212 | $ 5 336 | $ 6 931 | $ 8 814 |
| Size and Intensity | | | | | | |
| Percent of land area tillable | 90.3 | 91.7 | 91.0 | 88.7 | 89.6 | 89.0 |
| Percent tillable land in grain | 66.1 | 70.9 | 72.8 | 71.5 | 70.1 | 68.6 |
| Percent in hay and pasture | 30.5 | 26.1 | 23.2 | 23.9 | 25.1 | 25.3 |
| Feed fed per acre to prod. l.s. | $ 13.68 | $ 9.88 | $ 8.78 | $ 8.17 | $ 9.85 | $ 9.66 |
| Percent of income from prod.l.s. | 63.4 | 48.3 | 43.1 | 41.9 | 46.8 | 46.5 |
| Percent of income from crops | 24.6 | 41.5 | 47.4 | 49.3 | 44.9 | 45.5 |
| Months of labor per 100 crop A. | 19.4 | 13.7 | 11.5 | 10.4 | 10.0 | 8.8 |
| Total months of labor | 14.7 | 17.2 | 21.3 | 24.9 | 29.7 | 35.8 |
| Number of work horses | 2.0 | 2.2 | 2.6 | 3.1 | 3.8 | 4.2 |
| Crop Yields per Acre | | | | | | |
| Corn, bu. | 63.9 | 65.9 | 65.9 | 66.1 | 65.7 | 64.7 |
| Soybeans, bu. | 22.5 | 24.3 | 25.3 | 26.1 | 26.3 | 25.9 |
| Livestock Returns | | | | | | |
| Per $100 feed fed | $ 191 | $ 193 | $ 186 | $ 182 | $ 172 | $ 160 |
| Hog returns per litter | 148 | 147 | 144 | 142 | 138 | 141 |
| Dairy returns per cow | 116 | 112 | 118 | 108 | 105 | 96 |
| Expense Factors | | | | | | |
| Labor cost per crop acre | $ 10.60 | $ 7.49 | $ 6.36 | $ 5.77 | $ 5.57 | $ 5.08 |
| Horse and machinery cost per crop acre | 7.40 | 5.98 | 5.63 | 5.15 | 5.13 | 5.17 |
| Improvement cost per acre | 1.60 | 1.42 | 1.20 | 1.06 | 1.03 | 1.08 |
| Land tax per acre | 1.37 | 1.40 | 1.35 | 1.30 | 1.34 | 1.30 |

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

*Labor and horse and machinery expenses*. Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases, but decrease as the size of farm increases. Therefore the efficiency of a farm in the use of labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 4, 1941

| Acres per farm | Feed fed per acre | | | | Feed fed per acre | | | |
|---|---|---|---|---|---|---|---|---|
| | Less than $5.00 | $5.00 to $9.99 | $10.00 to $14.99 | $15.00 or more | Less than $5.00 | $5.00 to $9.99 | $10.00 to $14.99 | $15.00 or more |
| | (labor cost per crop acre) | | | | | (horse and machinery cost per crop acre) | | |
| Less than 121 | $8.40 | $10.48 | $11.40 | $13.50 | $6.40 | $6.90 | $8.19 | $8.31 |
| 121 to 200 | 6.52 | 7.43 | 7.97 | 9.20 | 5.08 | 6.01 | 6.33 | 7.03 |
| 201 to 280 | 5.26 | 6.27 | 7.60 | 8.04 | 4.93 | 5.93 | 6.10 | 6.30 |
| 281 to 360 | 5.01 | 5.73 | 6.85 | 7.81 | 4.80 | 5.00 | 5.81 | 5.90 |
| 361 to 440 | 4.80 | 5.65 | 6.14 | 6.42 | 4.62 | 4.90 | 5.20 | 5.75 |
| 441 or more | 3.88 | 5.59 | 6.07 | 6.24 | 4.50 | 4.85 | 5.10 | 5.60 |

## Producing for War Needs

In any given period gross receipts for hogs, cattle, dairy sales, eggs, and grain are relative measures of production (Table 7). Therefore the account keeper should use these standards to compare his own production with that of other account keepers. He should then adopt on his farm the kind of farm plan and the management practices that will make the best possible use of land, buildings, livestock, labor, machinery, and other resources for the duration of the war. Thus he will have more products to put on the nation's markets and so will be making the greatest possible contribution to the war effort.

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 4, 1938-1941

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1941 | 1940 | 1939 | 1938 |
| Number of farms | -- | 703 | 582 | 559 | 767 |
| Capital Investments | | | | | |
| Land | $ | $28 998 | $29 028 | $28 902 | $30 408 |
| Farm improvements | | 4 334 | 4 353 | 4 122 | 4 662 |
| Horses | | 268 | 345 | 413 | 471 |
| Productive livestock: Cattle | | 1 704 | 1 561 | 1 323 | 1 369 |
| Hogs | | 478 | 463 | 469 | 576 |
| Sheep | | 92 | 77 | 104 | 105 |
| Poultry | | 104 | 99 | 101 | 113 |
| Total productive livestock | ( ) | (2 378) | (2 200) | (1 997) | (2 163) |
| Feed and grain | | 3 334 | 3 776 | 2 963 | 3 199 |
| Machinery and equipment | | 2 327 | 2 249 | 2 172 | 2 184 |
| Automobile (farm share) | | 226 | 205 | 194 | 207 |
| Total | $ | $41 865 | $42 156 | $40 763 | $43 366 |
| Receipts and Net Increases | | | | | |
| Horses | $ | $ -- | $ -- | $ -- | $ -- |
| Productive livestock: Cattle | | 1 263 | 1 019 | 840 | 782 |
| Dairy sales | | 553 | 418 | 367 | 491 |
| Hogs | | 1 961 | 948 | 807 | 1 166 |
| Sheep | | 87 | 61 | 48 | 75 |
| Poultry | | 138 | 85 | 68 | 85 |
| Egg sales | | 225 | 156 | 130 | 172 |
| Total productive livestock | ( ) | (4 227) | (2 687) | (2 260) | (2 771) |
| Farm products used in household | | 273 | 225 | 235 | 265 |
| Feed and grain | | 4 183 | 2 167 | 2 925 | 2 055 |
| Labor off farm | | 39 | 40 | 50 | 67 |
| Miscellaneous | | 10 | 9 | 11 | 7 |
| AAA payments | | 525 | 577 | 679 | 250 |
| Total | $ | $ 9 257 | $ 5 705 | $ 6 160 | $ 5 415 |
| Expenses and Net Decreases | | | | | |
| Farm improvements | $ | $ 313 | $ 283 | $ 253 | $ 273 |
| Horses | | 20 | 29 | 19 | 12 |
| Productive livestock | | -- | -- | -- | -- |
| Feed and grain | | -- | -- | -- | -- |
| Machinery and equipment | | 830 | 727 | 663 | 663 |
| Automobile (farm share) | | 137 | 122 | 116 | 119 |
| Hired labor | | 486 | 436 | 432 | 458 |
| Miscellaneous | | 34 | 30 | 29 | 36 |
| Crop expense | | 175 | 172 | 153 | 184 |
| Livestock expense | | 65 | 52 | 56 | 54 |
| Taxes | | 398 | 397 | 373 | 360 |
| Total | $ | $ 2 458 | $ 2 248 | $ 2 094 | $ 2 159 |
| Receipts less expenses | $ | $ 6 799 | $ 3 457 | $ 4 066 | $ 3 256 |
| Family labor | | 189 | 153 | 164 | 172 |
| Returns for labor, capital, mgt. | $ | $ 6 610 | $ 3 304 | $ 3 902 | $ 3 084 |
| Operator's labor | | 596 | 543 | 531 | 540 |
| Net earnings per farm | $ | $ 6 014 | $ 2 761 | $ 3 371 | $ 2 544 |
| Rate Earned on Investment | % | 14.4% | 6.5% | 8.3% | 5.9% |
| Interest on investment | $ | $ 2 093 | $ 2 108 | $ 2 039 | $ 2 169 |
| Labor and Management Earnings | | 4 517 | 1 196 | 1 863 | 915 |
| Nonfarm income | $ | $ 95 | $ 68 | $ 116 | $ 78 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United States Department of Agriculture cooperating. H. P. Rusk, *Director.* Acts approved by Congress May 8 and June 30, 1914.

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# FARM BUSINESS REPORT . . . 1941

The farmer contributes most to the war effort by efficiently using his land, labor, machinery, and other available resources

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## FARMING-TYPE AREA FIVE
## West Central General Farming Area

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COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
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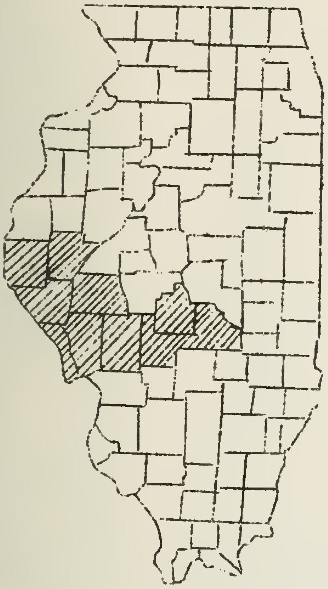
Annual Farm Business Report

# ON THREE HUNDRED SIXTY-TWO FARMS IN FARMING-TYPE AREA 5, 1941

By P. E. Johnston, J. B. Cunningham, and K. E. Kinsinger[1]

Farm earnings of accounting farms in Farming-Type Area 5 were much higher in 1941 than in 1940. The average net earnings per acre were $18.39 in 1941, $9.04 in 1940, $9.77 in 1939, and $7.93 in 1938. The items considered in calculating the net earnings included: inventory changes; cash receipts; cash expenses; the value of farm products used in the household; and unpaid family labor. Each of these five items was larger in 1941 than in 1940 (Table 1).



▨ Farming-Type Area 5
General Farming

Larger incomes from livestock and livestock products were, to a considerable extent, responsible for larger cash receipts in 1941 than in 1940. Although cash expenditures were higher, especially for feed and machinery, the total increase in income was greater than the total increase in expenditures; therefore the cash balance showed an increase for 1941.

The accounting farms in this report were larger than the average of all the farms in the area, the crop yields were above average, and the farm operators were more skillful than average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

The averages presented in this report provide a good local yardstick of efficiency. Any farmer keeping farm records can apply this yardstick to his business operations in order to locate the strong and weak places in the management of his farm. The data in Tables 1 to 7 and Figure 1 are particularly well adapted for such a comparison because they contain both measures of earnings and measures of those management factors which are responsible for major variations in farm earnings.

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[1] W. N. Thompson supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm account project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the indicated farm advisers:

W. S. Batson, Shelby County
G. B. Whitman, Adams County
C. S. Love, Christian County
A. E. Snyder, Montgomery County
W. F. Coolidge, Morgan County
O. O. Mowery, Macoupin County

W. B. Bunn, Pike County
C. T. Kibler, Jersey County
W. F. Purnell, Greene County
E. H. Garlich, Brown County
G. H. Reid, Scott County
R. K. Wise, Schuyler County

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 5, 1938-1941

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1941 | 1940 | 1939 | 1938 |
| Number of farms | -- | 362 | 316 | 315 | 318 |
| Acres per farm | | 250 | 255 | 261 | 242 |
| Inventory Changes | | | | | |
| Farm improvements | $ | $ 75 | $ 118 | $ 99 | $ 69 |
| Livestock | | 930 | 343 | 298 | 219 |
| Feed and grain | | 940 | 301 | 590 | 67 |
| Machinery and equipment | | 261 | 87 | 110 | 158 |
| Automobile (farm share) | | 35 | 21 | 11 | 4 |
| Total | $ | $ 2 241 | $ 870 | $ 1 108 | $ 517 |
| Cash Receipts | | | | | |
| Farm improvements | $ | $ 6 | $ 10 | $ 12 | $ 3 |
| Horses | | 40 | 43 | 53 | 59 |
| Productive livestock: Cattle | | 2 225 | 1 782 | 1 668 | 1 144 |
| Dairy sales | | 689 | 522 | 432 | 466 |
| Hogs | | 2 448 | 1 455 | 1 482 | 1 488 |
| Sheep | | 190 | 124 | 115 | 90 |
| Poultry | | 110 | 81 | 95 | 85 |
| Egg sales | | 178 | 116 | 115 | 136 |
| Total productive livestock | ( ) | (5 840) | (4 080) | (3 907) | (3 409) |
| Feed and grain | | 1 766 | 1 264 | 1 387 | 1 167 |
| Machinery and equipment | | 281 | 249 | 265 | 256 |
| Automobile (farm share) | | 61 | 48 | 46 | 34 |
| Labor off farm | | 39 | 43 | 52 | 58 |
| Miscellaneous | | 10 | 13 | 18 | 8 |
| AAA payments | | 333 | 426 | 454 | 171 |
| Total | $ | $ 8 376 | $ 6 176 | $ 6 194 | $ 5 165 |
| Cash Expenses | | | | | |
| Farm improvements | $ | $ 367 | $ 368 | $ 320 | $ 261 |
| Horses | | 27 | 23 | 30 | 38 |
| Productive livestock: Cattle | | 1 202 | 978 | 976 | 565 |
| Hogs | | 233 | 149 | 213 | 130 |
| Sheep | | 88 | 56 | 57 | 34 |
| Poultry | | 27 | 20 | 24 | 23 |
| Total productive livestock | ( ) | (1 550) | (1 203) | (1 270) | ( 752) |
| Feed and grain | | 1 174 | 726 | 688 | 524 |
| Machinery and equipment | | 1 158 | 857 | 872 | 813 |
| Automobile (farm share) | | 209 | 167 | 161 | 131 |
| Hired labor | | 421 | 370 | 379 | 318 |
| Miscellaneous | | 34 | 25 | 33 | 25 |
| Crop expense | | 142 | 124 | 133 | 118 |
| Livestock expense | | 70 | 54 | 61 | 52 |
| Taxes | | 296 | 294 | 289 | 256 |
| Total | $ | $ 5 448 | $ 4 211 | $ 4 236 | $ 3 288 |
| Summary | | | | | |
| Cash balance | $ | $ 2 928 | $ 1 965 | $ 1 958 | $ 1 877 |
| Farm products used in household | | 283 | 244 | 256 | 279 |
| Total inventory change | | 2 241 | 870 | 1 108 | 517 |
| Receipts less expenses | $ | $ 5 452 | $ 3 079 | $ 3 322 | $ 2 673 |
| Total unpaid labor | | 850 | 770 | 769 | 755 |
| Net earnings per farm | $ | $ 4 602 | $ 2 309 | $ 2 553 | $ 1 918 |
| Net earnings per acre | $ | $ 18.39 | $ 9.04 | $ 9.77 | $ 7.93 |

Inventory changes. The year 1941 was the ninth consecutive year of increasing inventories. The increases during the past four years ranged from $2,241 in 1941 to $517 in 1938 (Table 1). The largest increases in 1941 were for livestock and feed and grain. The average amounts of grain on hand in Area 5 at the two inventory periods were:

| Crop | Beginning of year (bushels) | End of year (bushels) |
|---|---|---|
| Corn | 2,205 | 2,624 |
| Oats | 501 | 534 |
| Wheat | 294 | 276 |
| Soybeans | 210 | 214 |

Summary of cash receipts and cash expenses. Cash receipts exceeded cash expenses in 1941 by $2,928, a larger margin than for any other year during the past four years. The cash balance, the difference between cash receipts and expenses, is the amount of money which will be available for family living expenses, interest, debt payments, and savings.

Although there was no appreciable change in the amount of family labor available, the total valuation of unpaid labor was higher for 1941 than for any other year in the past four. This increase resulted from the fact that the physical labor of the operator and other members of the family was valued at $55 per month in 1941 and at $50 per month in each of the three previous years.

The net earnings per farm averaged $4,602 in 1941 compared with $2,309 in 1940. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding to the cash balance the value of farm products used in the household and the inventory increases and by subtracting from the resulting total the value of unpaid labor. Therefore this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

Variation in farm earnings. A wide variation was found in earnings on the farms in Area 5. For example, 42 farms earned less than 9 percent on their investment, with an average rate earned of 6.4 percent; but 42 farms earned 24 percent or more, with an average rate earned of 28.3 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had $936 for labor and management earnings contrasted with $5,118 for the latter group. The variation in earnings and in size of farm for all the records in the area was as follows:

| Rate earned on investment (percent) | Number of farms | Average rate earned (percent) | Acres per farm | Capital invested per farm | Gross earnings per farm | Net earnings per farm | Labor and management earnings |
|---|---|---|---|---|---|---|---|
| Less than 9.0 | 42 | 6.4 | 252 | $25 127 | $4 801 | $1 600 | $ 936 |
| 9.00 to 13.99 | 79 | 11.9 | 244 | 29 731 | 6 548 | 3 534 | 2 651 |
| 14.00 to 18.99 | 123 | 16.6 | 252 | 28 794 | 7 905 | 4 771 | 3 918 |
| 19.00 to 23.99 | 76 | 21.0 | 279 | 31 495 | 9 960 | 6 623 | 5 671 |
| 24.00 or more | 42 | 28.3 | 204 | 19 289 | 8 210 | 5 464 | 5 118 |

## TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 5, 1941

| Item | Your farm | Standards for your farm | Average of all farms |
|---|---|---|---|
| Rate earned on investment | % | 16.4% | 16.4% |
| Number of farms | -- | -- | 362 |
| Acres in farm | | 250 | 250 |
| Acres tillable | | 199 | 199 |
| Acres in crops | | 148 | 148 |
| Gross earnings per acre | $ | $ a/ | $ 29.78 |
| Gross expenses per acre | | | 11.39 |
| Net earnings per acre | | | 18.39 |
| Investments | | | |
| Value of land per acre | $ | $ 68 | $ 68 |
| Value of improved land per acre | | a/ | 75 |
| Value of improvements per acre | | e/ | 15 |
| Total investment per acre | | 112 | 112 |
| Land Use | | | |
| Percent of land area tillable | | a/ | 79.6 |
| Percent of tillable land in: | | | |
| Corn | | | 25.4 |
| Oats | | | 10.5 |
| Wheat | | | 12.5 |
| Soybeans | | | 11.6 |
| Other crops | | | 5.1 |
| Legume hay and pasture | | | 21.3 |
| Nonlegume hay and pasture | | | 13.6 |
| Crop Yields | | | |
| Corn | | b/ | 64.0 |
| Oats | | | 43.0 |
| Wheat | | | 22.1 |
| Soybeans | | | 22.4 |
| Livestock Factors | | | |
| Value of feed fed to prod. l.s. | $ | $2 911 | $2 911 |
| Feed fed per acre to prod. l.s. | | c/ | 11.63 |
| Returns per $100 worth of feed fed | | | 188 |
| Poultry returns per hen | | 3.37 | 3.37 |
| Number of litters farrowed | | 19.6 | 19.6 |
| Number of pigs weaned per litter | | 6.4 | 6.4 |
| Returns per litter farrowed | $ | $ 145 | $ 145 |
| Average number of cows milked | | 6.6 | 6.6 |
| Dairy returns per cow milked | $ | $ c/ | $ 117 |
| Expense Factors | | | |
| Horse and machinery cost per crop acre | $ | $ d/ | $ 5.96 |
| Labor cost per crop acre | | | 8.35 |
| Total months of labor | | e/ | 22.8 |
| Number of work horses | | | 3.3 |
| Improvement cost per acre | $ | $ | $ 1.14 |
| Land tax per acre | | a/ | 1.03 |

Source of Standards:

a/ Table 3, value of improved land.
b/ Fig. 1, value of improved land.
c/ Table 4, source of income.
d/ Table 6, size of farm and value of feed fed.
e/ Table 5, size of farm.

## CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

### Accounting Farms in Farming-Type Area 5, 1941

The numbers above the lines across the middle of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

| | | | Factors that affect the gross earnings | | | | | | | | | | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Crop yields | | | | | | | | | | | |
| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Percent of tillable land in legume hay and pasture | Corn, bu. | Oats, bu. | Wheat, bu. | Feed fed per acre to prod. l.s. | Returns per $100 feed fed | Poultry returns per hen | Hog returns per litter farrowed | Dairy returns per cow milked | Total expense per acre | Horse and machinery cost per crop acre | Labor cost per crop acre | Improvement cost per acre |
| 31 | 500 | | | | | | | | 4.87 | 195 | | | | | |
| 28 | 450 | | | | | | | | 4.57 | 185 | | | | | |
| 25 | 400 | | | | | | | | 4.27 | 175 | | | | | |
| 22 | 350 | | | | | | | | 3.97 | 165 | | | | | |
| 19 | 300 | | | | | | | | 3.67 | 155 | | | | | |
| 16.4 | 250 | | | | | | | | 3.37 | 145 | | | | | |
| 13 | 200 | | | | | | | | 3.07 | 135 | | | | | |
| 10 | 150 | | | | | | | | 2.77 | 125 | | | | | |
| 7 | 100 | | | | | | | | 2.47 | 115 | | | | | |
| 4 | 50 | | | | | | | | 2.17 | 105 | | | | | |
| 1 | --- | | | | | | | | 1.87 | 95 | | | | | |
| * 3% | 50 | $3 | 3% | 4 | 4 | 2 | $2 | $20 | $.30 | $10 | $10 | $1 | $.50 | $1 | $.20 |

*Each space between lines represents the values indicated at bottom of each column.

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 5, 1941

| Item | Value of improved land | | | | | |
|---|---|---|---|---|---|---|
| | Less than $43 | $43 to $62 | $63 to $82 | $83 to $102 | $103 to $122 | More than $122 |
| Average value of improved land- - - | $35 | $53 | $73 | $95 | $111 | $128 |
| Number of farms - - - - - - - - - - - | 46 | 85 | 105 | 84 | 15 | 27 |
| Acres per farm- - - - - - - - - - - - | 281 | 241 | 248 | 241 | 267 | 254 |
| Percent of land area tillable - - - | 67.8 | 76.8 | 79.9 | 85.0 | 87.7 | 88.6 |
| Percent of tillable land in: | | | | | | |
| Corn- - - - - - - - - - - - - - - - | 20.7 | 23.4 | 24.9 | 27.7 | 30.5 | 30.2 |
| Oats- - - - - - - - - - - - - - - - | 10.8 | 11.0 | 10.9 | 11.3 | 10.3 | 9.5 |
| Wheat - - - - - - - - - - - - - - - | 10.8 | 12.4 | 12.0 | 12.3 | 12.8 | 13.7 |
| Soybeans- - - - - - - - - - - - - - | 7.9 | 7.2 | 10.2 | 15.0 | 13.9 | 22.3 |
| Other crops - - - - - - - - - - - - | 9.9 | 5.4 | 5.4 | 3.4 | 4.0 | 2.1 |
| Legume hay and pasture- - - - - - | 21.2 | 23.6 | 23.3 | 19.5 | 18.6 | 14.4 |
| Nonlegume hay and pasture - - - - | 18.7 | 17.0 | 13.3 | 10.8 | 9.9 | 7.8 |
| Gross earnings per acre - - - - - - | $18.31 | $25.66 | $29.90 | $36.00 | $36.68 | $40.95 |
| Gross expenses per acre - - - - - - | 8.72 | 10.32 | 11.45 | 13.40 | 12.79 | 12.72 |
| Net earnings per acre - - - - - - - | $ 9.59 | $15.34 | $18.45 | $22.60 | $23.89 | $28.23 |
| Land tax per acre - - - - - - - - - - | $ .71 | $ .85 | $ 1.00 | $ 1.28 | $ 1.29 | $ 1.41 |

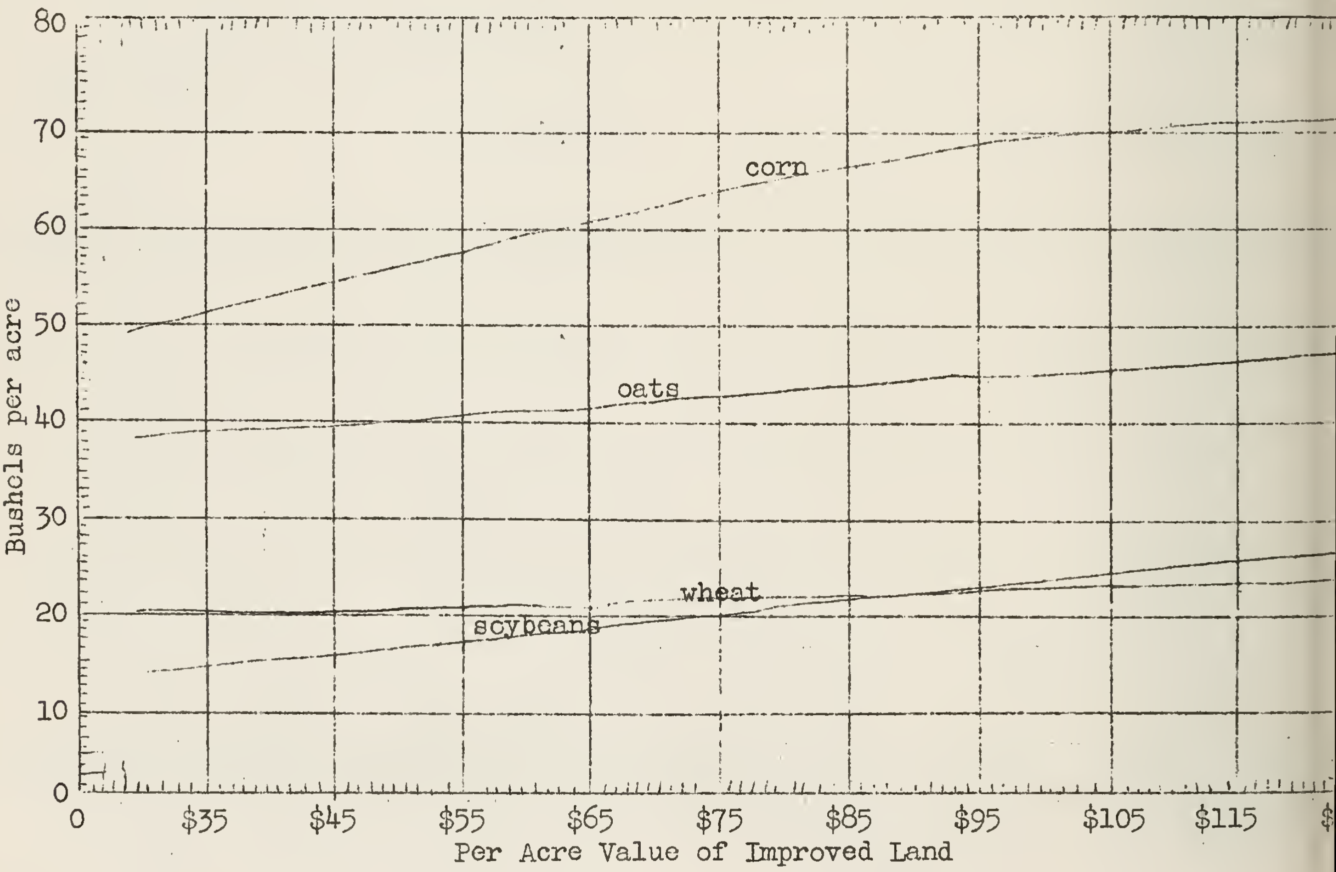

Fig. 1.--Average yields of corn, oats, wheat, and soybeans with varying values of improved land.

## Explanation of Tables

Variable standards are used in the analysis of the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per $100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The standards for your farms (Table 2) are taken from Tables 3 to 6 and from Figure 1. They are classified as follows:

Table 3 - Value of improved land.
  Gross earnings, gross expenses, and net earnings per acre.
  Value of improved land per acre.
  All items in the land-use section.
  Land tax per acre.
Figure 1 - Value of improved land.
  Yields for corn, oats, wheat, and soybeans.
Table 4 - Source of income.
  Feed fed per acre to productive livestock.
  Returns per $100 worth of feed fed.
  Dairy returns per cow.
Table 5 - Size of farm.
  Value of improvements per acre.
  Total months of labor.
  Number of work horses.
  Improvement cost per acre
Table 6 - Size of farm and amount of feed fed per acre.
  Horse and machinery cost per crop acre.
  Labor cost per crop acre.

The terms used in the tables are the same as the terms used in the Illinois farm account book. For example, "improved land" is classified on Page 1 of the farm account book. It means tillable land and land occupied by farmstead, roads, and orchards. Likewise, "crop acres" are listed on Page 18, Line 36, of the farm account book. They include all the tillable land on which work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields. The percent of tillable land in grain crops increased as the value per acre for improved land increased from an average of $35 to $128 (Table 3). Likewise the percent of land area tillable, the net earnings per acre, and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, wheat, and soybeans increased as the land value increased (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, his crop yields, and his net earnings per acre were high or low for 1941 in comparison with the average of other farms in his area having about the same value for improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 5, 1941

| Item | Source of income | | | | | |
|---|---|---|---|---|---|---|
| | | | | | General farms | |
| | Grain 40%+ | Dairy sales 40%+ | Hogs 40%+ | Cattle 40%+ | L.S. 60%- | L.S. 60%+ |
| Number of farms | 85 | 26 | 125 | 19 | 37 | 70 |
| Percent of income from prod. l.s. | 37.1 | 89.0 | 86.2 | 92.9 | 53.2 | 73.9 |
| Percent of income from crops | 54.6 | 3.0 | 4.9 | 6.6 | 35.0 | 16.6 |
| Investments | | | | | | |
| Total per farm | $30 714 | $22 365 | $25 898 | $54 574 | $22 669 | $26 348 |
| Total per acre | 121 | 101 | 111 | 121 | 115 | 102 |
| Land per acre | 81 | 54 | 65 | 69 | 74 | 58 |
| Improvements per acre | 12 | 17 | 15 | 17 | 14 | 15 |
| Machinery per acre | 8.84 | 8.40 | 7.98 | 6.77 | 8.01 | 7.75 |
| Earnings | | | | | | |
| Per farm | | | | | | |
| Gross earnings | $ 7 871 | $ 6 631 | $ 7 166 | $13 933 | $ 5 760 | $ 7 150 |
| Gross expenses | 2 822 | 3 277 | 2 649 | 5 588 | 2 326 | 2 871 |
| Net earnings | $ 5 049 | $ 3 354 | $ 4 517 | $ 8 345 | $ 3 434 | $ 4 279 |
| Per acre | | | | | | |
| Gross earnings | $ 31.02 | $ 29.96 | $ 30.60 | $ 30.84 | $ 29.14 | $ 27.64 |
| Gross expenses | 11.12 | 14.81 | 11.31 | 12.37 | 11.77 | 11.10 |
| Net earnings | $ 19.90 | $ 15.15 | $ 19.29 | $ 18.47 | $ 17.37 | $ 16.54 |
| Rate earned on investment | 16.4% | 15.0% | 17.4% | 15.3% | 15.1% | 16.2% |
| Labor and management earnings | $ 4 106 | $ 2 849 | $ 3 823 | $ 6 222 | $ 2 903 | $ 3 573 |
| Size and Intensity | | | | | | |
| Acres per farm | 254 | 221 | 234 | 452 | 198 | 259 |
| Percent of land area tillable | 86.1 | 78.4 | 75.8 | 78.0 | 85.8 | 76.7 |
| Percent tillable land in grain | 71.7 | 49.7 | 58.8 | 59.6 | 62.6 | 55.6 |
| Percent in hay and pasture | 24.2 | 46.8 | 37.9 | 35.3 | 33.8 | 40.2 |
| Feed fed per acre to prod. l.s. | $ 6.26 | $ 11.93 | $ 14.51 | $ 19.09 | $ 8.30 | $ 11.10 |
| Months of labor per 100 crop A. | 11.4 | 24.8 | 17.5 | 12.9 | 14.7 | 17.5 |
| Total months of labor | 20.5 | 29.1 | 21.7 | 32.4 | 19.1 | 24.9 |
| Crop Yields per Acre | | | | | | |
| Corn, bu. | 65.3 | 55.7 | 64.1 | 69.0 | 62.9 | 61.7 |
| Wheat, bu. | 22.7 | 22.2 | 22.6 | 21.8 | 18.9 | 22.5 |
| Livestock Returns | | | | | | |
| Per $100 feed fed | $ 196 | $ 231 | $ 188 | $ 153 | $ 200 | $ 192 |
| Hog returns per litter | 140 | 140 | 142 | 172 | 143 | 151 |
| Dairy returns per cow | 100 | 171 | 84 | 84 | 103 | 117 |
| Expense Factors | | | | | | |
| Labor cost per crop acre | $ 6.19 | $ 13.29 | $ 9.52 | $ 7.11 | $ 7.72 | $ 9.24 |
| Horse and machinery cost per crop acre | 5.12 | 7.91 | 6.35 | 6.26 | 5.70 | 6.07 |
| Improvement cost per acre | .97 | 1.62 | 1.17 | 1.19 | 1.22 | 1.10 |
| Land tax per acre | 1.17 | .91 | .97 | 1.04 | 1.12 | .97 |

Source of income. The grouping of accounting farms according to source of income for 1941 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer should, however, use caution in interpreting the data in Table 4. For example, the fact that hog farms showed the largest rate earned on the investment for 1941 and that dairy farms showed the smallest does not mean that such a relationship will prevail over a long period of years. The relative profitableness of these enterprises in 1941 was due largely to conditions affecting price and production.

In comparing the returns on the various groups of farms per $100 worth of feed fed, one should consider the fact that there is a wide variation in the necessary returns per $100 worth of feed fed which will be necessary to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, $195; dairy cattle, $157; hogs, $127; and feeder cattle, $117.

Furthermore, in a comparison of crop yields for the various types of farming, the following items, which indicate that the grain farms were located on the better land, should be noted: (1) high value of land per acre; (2) large percent of land area tillable; (3) large percent of land in grain; (4) high yield of corn and wheat per acre; and (5) high land tax per acre.

Differences in expenses are highly significant for the six groups of farms. Labor input per 100 crop acres was highest on the dairy farms, where 24.8 months of labor were used, and lowest on the grain farms, where 11.4 months of labor were used. The dairy farmers evidently utilized a large amount of available labor to increase the size of their businesses without increasing the size of their farms.

The labor cost per crop acre ranged from $6.19 on the grain farms to $13.29 on the dairy farms; the horse and machinery cost per crop acre was highest on the dairy farms where it averaged $7.91 and lowest on the grain farms, where it averaged $5.12; and the improvement cost per acre averaged $1.62 on the dairy farms and $.97 on the grain farms.

Size of farm. When the farm records in Farming-Type Area 5 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on the smaller ones; and, after deductions were made for farm business expenditures and interest on the investment, the 33 largest farms had labor and management earnings which averaged $7,285 contrasted with $2,139 for the 30 smallest farms. The rate earned on investment did not differ significantly for the various size groups.

The smaller farms were operated more intensively than were the larger ones. This variation was indicated by the much higher gross and net earnings per acre, by the larger labor and capital input per acre, and by the larger value of feed fed per acre to productive livestock.

## TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS

Accounting Farms in Farming-Type Area 5, 1941

| | Total acres in farm | | | | | |
|---|---|---|---|---|---|---|
| Item | 41 to 120 | 121 to 200 | 201 to 280 | 281 to 360 | 361 to 440 | 441 or more |
| Number of farms | 30 | 136 | 103 | 41 | 19 | 33 |
| Acres per farm | 102 | 166 | 241 | 319 | 396 | 592 |
| Investments | | | | | | |
| Total per farm | $12 794 | $19 655 | $26 574 | $39 553 | $35 830 | $62 212 |
| Total per acre | 125 | 119 | 110 | 124 | 90 | 105 |
| Land per acre | 74 | 71 | 66 | 77 | 58 | 63 |
| Improvements per acre | 18 | 17 | 15 | 15 | 10 | 14 |
| Machinery per acre | 9.99 | 9.30 | 7.98 | 8.87 | 6.57 | 6.43 |
| Earnings | | | | | | |
| Per farm | | | | | | |
| Gross earnings | $ 3 868 | $ 5 395 | $ 7 243 | $10 189 | $ 9 763 | $15 122 |
| Gross expenses | 1 657 | 2 215 | 2 833 | 3 632 | 3 486 | 5 276 |
| Net earnings | $ 2 211 | $ 3 180 | $ 4 410 | $ 6 557 | $ 6 277 | $ 9 846 |
| Per acre | | | | | | |
| Gross earnings | $ 37.77 | $ 32.56 | $ 30.00 | $ 31.94 | $ 24.66 | $ 25.57 |
| Gross expenses | 16.18 | 13.37 | 11.73 | 11.39 | 8.81 | 8.92 |
| Net earnings | $ 21.59 | $ 19.19 | $ 18.27 | $ 20.55 | $ 15.85 | $ 16.65 |
| Rate earned on investment | 17.3% | 16.2% | 16.6% | 16.6% | 17.5% | 15.8% |
| Labor and management earnings | $ 2 139 | $ 2 799 | $ 3 702 | $ 5 221 | $ 5 063 | $ 7 285 |
| Size and Intensity | | | | | | |
| Percent of land area tillable | 86.2 | 84.7 | 81.0 | 80.2 | 72.6 | 73.2 |
| Percent tillable land in grain | 61.4 | 62.8 | 60.7 | 65.5 | 55.9 | 59.5 |
| Percent in hay and pasture | 34.8 | 33.8 | 36.2 | 31.6 | 41.3 | 34.0 |
| Feed fed per acre to prod. l.s. | $ 12.73 | $ 11.54 | $ 11.48 | $ 12.02 | $ 8.73 | $ 12.62 |
| Percent of income from prod.l.s. | 66.3 | 69.2 | 68.7 | 68.2 | 69.1 | 78.8 |
| Percent of income from crops | 23.9 | 20.7 | 21.9 | 22.9 | 22.4 | 14.9 |
| Months of labor per 100 crop A. | 22.3 | 17.5 | 16.4 | 13.8 | 15.2 | 11.5 |
| Total months of labor | 14.7 | 18.5 | 23.7 | 27.4 | 28.7 | 36.6 |
| Number of work horses | 2.6 | 2.8 | 3.6 | 3.6 | 3.4 | 5.0 |
| Crop Yields per Acre | | | | | | |
| Corn, bu. | 68.6 | 61.8 | 64.9 | 65.2 | 58.9 | 65.9 |
| Wheat, bu. | 23.2 | 21.5 | 22.5 | 22.0 | 22.2 | 22.5 |
| Livestock Returns | | | | | | |
| Per $100 feed fed | $ 209 | $ 205 | $ 188 | $ 188 | $ 202 | $ 163 |
| Hog returns per litter | 146 | 147 | 139 | 144 | 155 | 144 |
| Dairy returns per cow | 97 | 120 | 118 | 123 | 104 | 120 |
| Expense Factors | | | | | | |
| Labor cost per crop acre | $ 12.41 | $ 9.46 | $ 8.80 | $ 7.92 | $ 7.30 | $ 6.10 |
| Horse and machinery cost per crop acre | 7.02 | 6.30 | 5.86 | 5.71 | 6.38 | 5.51 |
| Improvement cost per acre | 1.54 | 1.29 | 1.14 | 1.14 | .89 | 1.00 |
| Land tax per acre | 1.21 | 1.08 | 1.02 | 1.04 | .93 | .99 |

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses. Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases, but decrease as the size of farm increases. Therefore the efficiency of a farm in the use of labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 5, 1941

| Acres per farm | Feed fed per acre | | | Feed fed per acre | | |
|---|---|---|---|---|---|---|
| | Less than $7.00 | $7.00 to $10.99 | $11.00 or more | Less than $7.00 | $7.00 to $10.99 | $11.00 or more |
| | (labor cost per crop acre) | | | (horse and machinery cost per crop acre) | | |
| 41 to 120 | $11.10 | $11.70 | $13.60 | $5.70 | $6.60 | $7.50 |
| 121 to 200 | 7.80 | 8.90 | 11.00 | 4.60 | 5.90 | 7.40 |
| 201 to 280 | 7.20 | 8.70 | 9.80 | 4.50 | 5.50 | 6.50 |
| 281 to 360 | 6.50 | 8.40 | 9.10 | 4.30 | 5.30 | 6.20 |
| 361 to 440 | 6.20 | 8.20 | 8.50 | 4.90 | 6.00 | 6.60 |
| 441 or more | 5.00 | 6.00 | 6.80 | 4.10 | 4.50 | 5.80 |

## Producing for War Needs

In any given period gross receipts for hogs, cattle, dairy sales, eggs, and grain are relative measures of production (Table 7). Therefore the account keeper should use these standards to compare his own production with that of other account keepers. He should then adopt on his farm the kind of farm plan and the management practices that will make the best possible use of land, buildings, livestock, labor, machinery, and other resources for the duration of the war. Thus he will have more products to put on the nation's markets and so will be making the greatest possible contribution to the war effort.

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 5, 1938-1941

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1941 | 1940 | 1939 | 1938 |
| Number of farms | -- | 362 | 316 | 315 | 318 |
| Capital Investments | | | | | |
| Land | $ | $16 944 | $17 809 | $18 253 | $17 206 |
| Farm improvements | | 3 688 | 3 581 | 3 453 | 3 078 |
| Horses | | 310 | 374 | 407 | 448 |
| Productive livestock: Cattle | | 1 911 | 1 722 | 1 490 | 1 207 |
| Hogs | | 616 | 612 | 629 | 524 |
| Sheep | | 118 | 115 | 91 | 103 |
| Poultry | | 85 | 85 | 102 | 102 |
| Total productive livestock | ( ) | (2 730) | (2 534) | (2 312) | (1 936) |
| Feed and grain | | 2 349 | 2 384 | 1 998 | 1 877 |
| Machinery and equipment | | 1 812 | 1 831 | 1 775 | 1 521 |
| Automobile (farm share) | | 204 | 168 | 173 | 163 |
| Total | $ | $28 037 | $28 681 | $28 371 | $26 229 |
| Receipts and Net Increases | | | | | |
| Horses | $ | $ -- | $ -- | $ -- | $ 1 |
| Productive livestock: Cattle | | 1 507 | 1 128 | 1 021 | 755 |
| Dairy sales | | 689 | 522 | 432 | 466 |
| Hogs | | 2 655 | 1 335 | 1 260 | 1 416 |
| Sheep | | 123 | 92 | 77 | 57 |
| Poultry | | 104 | 65 | 63 | 66 |
| Egg sales | | 178 | 116 | 115 | 136 |
| Total productive livestock | ( ) | (5 256) | (3 258) | (2 968) | (2 896) |
| Farm products used in household | | 283 | 244 | 256 | 279 |
| Feed and grain | | 1 532 | 839 | 1 289 | 710 |
| Labor off farm | | 39 | 43 | 52 | 58 |
| Miscellaneous | | 10 | 13 | 18 | 8 |
| AAA payments | | 333 | 426 | 454 | 171 |
| Total | $ | $ 7 453 | $ 4 823 | $ 5 037 | $ 4 123 |
| Expenses and Net Decreases | | | | | |
| Farm improvements | $ | $ 286 | $ 240 | $ 209 | $ 189 |
| Horses | | 23 | 18 | 10 | -- |
| Productive livestock | | -- | -- | -- | -- |
| Feed and grain | | -- | -- | -- | -- |
| Machinery and equipment | | 616 | 521 | 497 | 398 |
| Automobile (farm share) | | 113 | 98 | 104 | 94 |
| Hired labor | | 421 | 370 | 379 | 318 |
| Miscellaneous | | 34 | 25 | 33 | 25 |
| Crop expense | | 142 | 124 | 133 | 118 |
| Livestock expense | | 70 | 54 | 61 | 52 |
| Taxes | | 296 | 294 | 289 | 256 |
| Total | $ | $ 2 001 | $ 1 744 | $ 1 715 | $ 1 450 |
| Receipts less expenses | $ | $ 5 452 | $ 3 079 | $ 3 322 | $ 2 673 |
| Family labor | | 248 | 234 | 245 | 229 |
| Returns for labor, capital, mgt. | $ | $ 5 204 | $ 2 845 | $ 3 077 | $ 2 444 |
| Operator's labor | | 602 | 536 | 524 | 526 |
| Net earnings per farm | $ | $ 4 602 | $ 2 309 | $ 2 553 | $ 1 918 |
| Rate Earned on Investment | | 16.4% | 8.1% | 9.0% | 7.3% |
| Interest on investment | $ | $ 1 402 | $ 1 434 | $ 1 418 | $ 1 312 |
| Labor and Management Earnings | | 3 802 | 1 411 | 1 659 | 1 132 |
| Nonfarm income | $ | $ 93 | $ 106 | $ 113 | $ 107 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United States Department of Agriculture cooperating. H. P. Rusk, *Director*. Acts approved by Congress May 8 and June 30, 1914.

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# FARM BUSINESS REPORT . . . 1941

The farmer contributes most to the war effort by efficiently using his land, labor, machinery, and other available resources

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## FARMING-TYPE AREA NINE
## Southern Fruit and Vegetable Area

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COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

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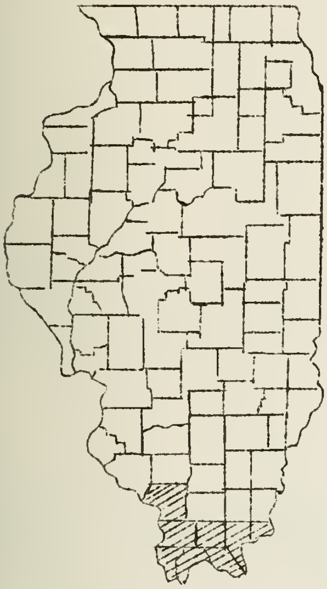
Annual Farm Business Report

# ON THIRTY-FOUR FARMS IN FARMING-TYPE AREA 9, 1941

By P. E. Johnston, J. B. Cunningham, and R. J. Mutti[1]

Farm earnings of accounting farms in Farming-Type Area 9 were much higher in 1941 than in 1940. The average net earnings per acre were $5.13 in 1941, $3.49 in 1940, $3.31 in 1939, and $2.73 in 1938. The items ocnsidered in calculating the net earnings included: inventory changes; cash receipts; cash expenses; the value of farm products used in the household; and unpaid family labor. Each of these five items was larger in 1941 than in 1940 (Table 1).



▨ Farming-Type Area 9
Fruit and Vegetable

Larger incomes from livestock and livestock products were, to a considerable extent, responsible for larger cash receipts in 1941 than in 1940. Although cash expenditures were higher, especially for feed and machinery, the total increase in income was greater than the total increase in expenditures; therefore the cash balance showed an increase for 1941.

The accounting farms in this report were larger than the average of all the farms in the area, the crop yields were above average, and the farm operators were more skillful than average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

The averages presented in this report provide a good local yardstick of efficiency. Any farmer keeping farm records can apply this yardstick to his business operations in order to locate the strong and weak places in the management of his farm. The data in Tables 1 to 7 and Figure 1 are particularly well adapted for such a comparison because they contain both measures of earnings and measures of those management factors which are responsible for major variations in farm earnings.

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[1] W. N. Thompson supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm account project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the indicated farm advisers:

J. G. McCall, Jackson-Perry Counties
J. R. Strubinger, Massac County
G. C. Smith, Pope-Hardin Counties
W. C. Anderson, Johnson County
T. L. Davis, Pulaski-Alexander Counties
E. A. Bierbaum, Union County

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 9, 1938-1941

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1941 | 1940 | 1939 | 1938 |
| Number of farms | -- | 34 | 55 | 56 | 37 |
| Acres per farm | | 232 | 234 | 186 | 224 |
| Inventory Changes | | | | | |
| Farm improvements | $ | $ 11 | $ 132 | $ -79 | $ -18 |
| Livestock | | 294 | 125 | 16 | 44 |
| Feed and grain | | 274 | 181 | 61 | -122 |
| Machinery and equipment | | 36 | 35 | 9 | 134 |
| Automobile (farm share) | | -32 | 41 | 5 | 13 |
| Total | $ | $ 583 | $ 514 | $ 12 | $ 51 |
| Cash Receipts | | | | | |
| Farm improvements | $ | $ 8 | $ 31 | $ 20 | $ -- |
| Horses | | 75 | 45 | 58 | 99 |
| Productive livestock: Cattle | | 623 | 396 | 294 | 290 |
| Dairy sales | | 559 | 364 | 298 | 312 |
| Hogs | | 747 | 331 | 360 | 667 |
| Sheep | | 44 | 38 | 40 | 12 |
| Poultry | | 76 | 60 | 60 | 65 |
| Egg sales | | 186 | 119 | 124 | 176 |
| Total productive livestock | ( ) | (2 235) | (1 308) | (1 176) | (1 522) |
| Feed and grain | | 734 | 587 | 1 169 | 504 |
| Machinery and equipment | | 206 | 94 | 100 | 93 |
| Automobile (farm share) | | 9 | 40 | 13 | 24 |
| Labor off farm | | 29 | 14 | 21 | 24 |
| Miscellaneous | | 20 | 2 | 15 | 3 |
| AAA payments | | 137 | 243 | 259 | 145 |
| Total | $ | $3 453 | $2 364 | $2 831 | $2 414 |
| Cash Expenses | | | | | |
| Farm improvements | $ | $ 258 | $ 213 | $ 168 | $ 127 |
| Horses | | 21 | 28 | 46 | 56 |
| Productive livestock: Cattle | | 246 | 135 | 94 | 149 |
| Hogs | | 60 | 34 | 25 | 48 |
| Sheep | | 1 | 9 | 3 | 4 |
| Poultry | | 24 | 15 | 13 | 14 |
| Total productive livestock | ( ) | ( 331) | ( 193) | ( 135) | ( 215) |
| Feed and grain | | 417 | 184 | 451 | 219 |
| Machinery and equipment | | 678 | 448 | 373 | 444 |
| Automobile (farm share) | | 76 | 157 | 92 | 117 |
| Hired labor | | 313 | 249 | 411 | 195 |
| Miscellaneous | | 18 | 18 | 25 | 16 |
| Crop expense | | 156 | 96 | 75 | 72 |
| Livestock expense | | 36 | 19 | 24 | 13 |
| Taxes | | 159 | 147 | 135 | 141 |
| Total | $ | $2 463 | $1 752 | $1 935 | $1 615 |
| Summary | | | | | |
| Cash balance | $ | $ 990 | $ 612 | $ 896 | $ 799 |
| Farm products used in household | | 278 | 220 | 229 | 284 |
| Total inventory change | | 583 | 514 | 12 | 51 |
| Receipts less expenses | $ | $1 851 | $1 346 | $1 137 | $1 134 |
| Total unpaid labor | | 663 | 530 | 522 | 521 |
| Net earnings per farm | $ | $1 188 | $ 816 | $ 615 | $ 613 |
| Net earnings per acre | $ | $ 5.13 | $ 3.49 | $ 3.31 | $ 2.73 |

Inventory changes. The year 1941 was the fifth consecutive year of increasing inventories. The increases during the past four years ranged from $583 in 1941 to $12 in 1939 (Table 1). The largest increases in 1941 were for livestock and feed and grain. The average amounts of grain on hand in Area 9 at the two inventory periods were:

| Crop | Beginning of year (bushels) | End of year (bushels) |
|---|---|---|
| Corn | 807 | 746 |
| Oats | 126 | 153 |
| Wheat | 90 | 157 |
| Soybeans | 26 | 47 |

Summary of cash receipts and cash expenses. Cash receipts exceeded cash expenses in 1941 by $990, a larger margin than for any other year during the past four years. The cash balance, the difference between cash receipts and expenses, is the amount of money which was available for family living expenses, interest, debt payments, and savings.

Although there was no appreciable change in the amount of family labor available, the total valuation of unpaid labor was higher for 1941 than for any other year in the past four. This increase resulted from the fact that the physical labor of the operator and other members of the family was valued at $45 per month in 1941 and at $40 per month in each of the three previous years.

The net earnings per farm averaged $1,188 in 1941 compared with $816 in 1940. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding to the cash balance the value of farm products used in the household and the inventory increases and by subtracting from the resulting total the value of unpaid labor. Therefore this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

Variation in farm earnings. A wide variation was found in earnings on the farms in Area 9. For example, 10 farms earned less than six percent on their investment, with an average rate earned of 2.2 percent; but 10 farms earned 14 percent or more, with an average rate earned of 18.3 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had $115 for labor and management earnings contrasted with $1,872 for the latter group. The variation in earnings and in size of farm for all the records in the area was as follows:

| Rate earned on investment (percent) | Number of farms | Average rate earned (percent) | Acres per farm | Capital invested per farm | Gross earnings per farm | Net earnings per farm | Labor and management earnings |
|---|---|---|---|---|---|---|---|
| Less than 6.0 | 10 | 2.2 | 248 | $12 828 | $2 895 | $ 288 | $ 115 |
| 6.0 to 13.99 | 14 | 9.8 | 236 | 13 459 | 3 518 | 1 318 | 1 053 |
| 14.0 or more | 10 | 18.3 | 209 | 10 435 | 3 808 | 1 908 | 1 872 |

TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Aroa 9, 1941

| Item | Your farm | Standards for your farm | Average of all farms |
|---|---|---|---|
| Rate earned on investment | % | 9.6% | 9.6% |
| Number of farms | -- | -- | 34 |
| Acres in farm |  | 232 | 232 |
| Acres tillable |  | 175 | 175 |
| Acres in crops |  | 105 | 105 |
| Gross earnings per acre | $ | $ a/ | $14.31 |
| Gross expenses per acre |  |  | 9.18 |
| Net earnings per acre | $ | $ | $ 5.13 |
| Investments |  |  |  |
| Value of land per acre | $ | $ 26 | $ 26 |
| Value of improved land per acre |  | a/ | 30 |
| Value of improvements per acre |  | e/ | 10 |
| Total investment per acre |  | 53 | 53 |
| Land Use |  |  |  |
| Percent of land area tillable |  | a/ | 75.6 |
| Percent of tillable land in: |  |  |  |
| Corn |  |  | 15.5 |
| Oats |  |  | 4.7 |
| Wheat |  |  | 11.8 |
| Soybeans |  |  | 2.8 |
| Others crops |  |  | 15.5 |
| Legume hay and pasture |  |  | 30.6 |
| Nonlegume hay and pasture |  |  | 19.1 |
| Crop yields |  |  |  |
| Corn |  | b/ | 34.0 |
| Oats |  |  | 29.8 |
| Wheat |  |  | 21.5 |
| Livestock Factors |  |  |  |
| Value of feed fed to productive livestock | $ | $ 1 209 | $ 1 209 |
| Feed fed per acre to productive livestock |  | c/ | 5.22 |
| Returns per $100 worth of feed fed |  |  | 204 |
| Poultry returns per hen |  | 3.05 | 3.05 |
| Number of litters farrowed |  | 7.6 | 7.6 |
| Number of pigs weaned per litter |  | 6.8 | 6.8 |
| Returns per litter farrowed | $ | $ 135 | $ 135 |
| Average number of cows milked |  | 6.4 | 6.4 |
| Dairy returns per cow milked | $ | $ c/ | $ 98 |
| Expense Factors |  |  |  |
| Horse and machinery cost per crop acre | $ | $ d/ | $ 6.47 |
| Labor cost per crop acre |  |  | 9.03 |
| Total months of labor |  | e/ | 23.0 |
| Number of work horses |  |  | 3.6 |
| Improvement cost per acre | $ | $ | $ 1.03 |
| Land tax per acre |  | a/ | .58 |

Source of Standards:
a/ Table 3, value of improved land.
b/ Fig. 1, value of improved land.
c/ Table 4, source of income.
d/ Table 6, size of farm and value of feed fed.
e/ Table 5, size of farm.

## CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

### Accounting Farms in Farming-Type Area 9, 1941

The numbers above the lines across the middle of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Factors that affect the gross earnings | | | | | | | | | Gross expense per acre | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Percent of tillable land in legume hay and pasture | Crop yields | | | Feed fed per acre to prod. l.s. | Returns per $100 feed fed | Poultry returns per hen | Hog returns per litter farrowed | Dairy returns per cow milked | | Horse and machinery cost per crop acre | Labor cost per crop acre | Improvement cost per acre |
| | | | | Corn, bu. | Oats, bu. | Wheat, bu. | | | | | | | | | |
| 19.6 | 382 | | | | | | | | 4.55 | 185 | | | | | |
| 17.6 | 352 | | | | | | | | 4.25 | 175 | | | | | |
| 15.6 | 322 | | | | | | | | 3.95 | 165 | | | | | |
| 13.6 | 292 | | | | | | | | 3.65 | 155 | | | | | |
| 11.6 | 262 | | | | | | | | 3.35 | 145 | | | | | |
| 9.6 | 232 | | | | | | | | 3.05 | 135 | | | | | |
| 7.6 | 202 | | | | | | | | 2.75 | 125 | | | | | |
| 5.6 | 172 | | | | | | | | 2.45 | 115 | | | | | |
| 3.6 | 142 | | | | | | | | 2.15 | 105 | | | | | |
| 1.6 | 112 | | | | | | | | 1.85 | 95 | | | | | |
| -- | 82 | | | | | | | | 1.55 | 85 | | | | | |
| *2% | 30 | $2 | 2% | 3 | 3 | 2 | $2 | $15 | $.30 | $10 | $10 | $1 | $1 | $2 | $.20 |

*Each space between lines represents the values indicated at bottom of each column.

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS
RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 9, 1941

| Item | Value of improved land | | | |
|---|---|---|---|---|
| | $10 to $22 | $25 to $30 | $31 to $40 | $43 to $50 |
| Average value of improved land- | $ 18 | $ 28 | $ 36 | $ 46 |
| Number of farms - - - - - - - - - | 10 | 11 | 7 | 6 |
| Acres per farm- - - - - - - - - - | 250 | 208 | 186 | 298 |
| Percent of land area tillable - | 68.0 | 87.1 | 83.3 | 65.9 |
| Percent of tillable land in: | | | | |
| Corn- - - - - - - - - - - - - - - | 11.5 | 16.4 | 17.7 | 17.5 |
| Oats- - - - - - - - - - - - - - - | 3.9 | 5.3 | 4.4 | 5.1 |
| Wheat - - - - - - - - - - - - - - | 5.7 | 15.3 | 15.5 | 11.6 |
| Soybeans- - - - - - - - - - - - - | .6 | 3.5 | 3.1 | 4.4 |
| Other crops - - - - - - - - - - - | 13.5 | 11.7 | 20.1 | 20.4 |
| Legume hay and pasture- - - - | 36.8 | 34.0 | 29.7 | 29.8 |
| Nonlegume hay and pasture - - | 28.0 | 13.8 | 9.5 | 11.2 |
| Gross earnings per acre - - - - | $11.46 | $15.75 | $18.68 | $13.30 |
| Gross expenses per acre - - - - | 8.40 | 8.60 | 11.88 | 9.09 |
| Net earnings per acre - - - - - | $ 3.06 | $ 7.15 | $ 6.80 | $ 4.21 |
| Land tax per acre - - - - - - - | $ .44 | $ .56 | $ .79 | $ .66 |

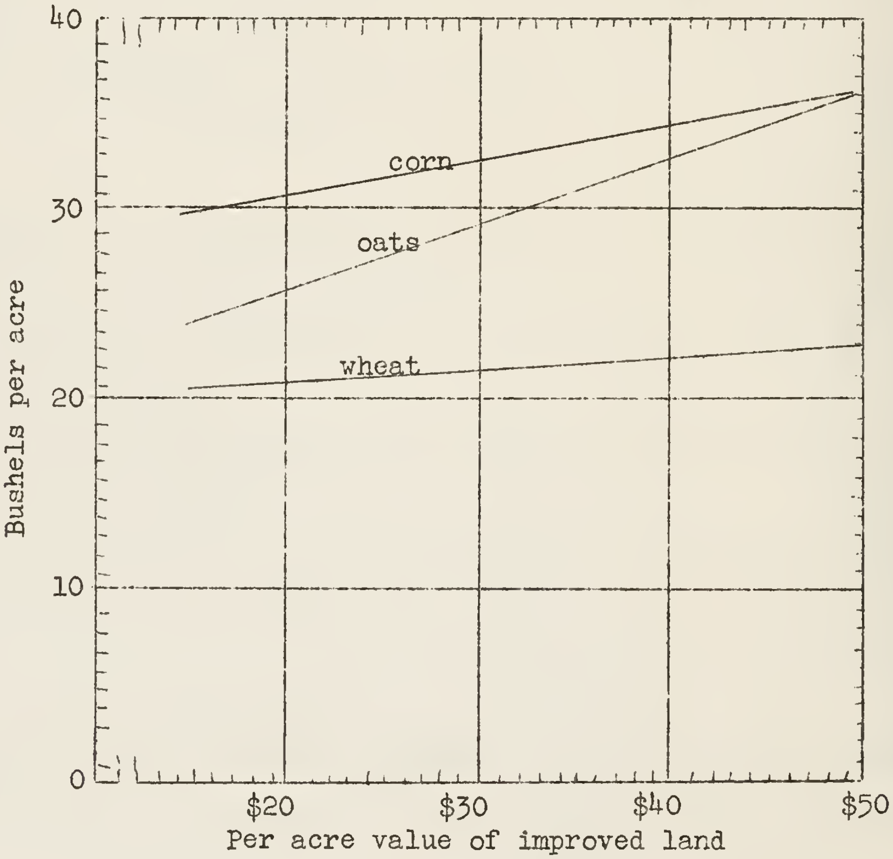

Fig. 1.--Average yields of corn, oats, and wheat with varying values of improved land.

## Explanation of Tables

Variable standards are used in the analysis of the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per $100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farm" (Table 2) are taken from Tables 3 to 6 and from Figure 1 as follows:

Table 3 - Value of improved land.
    Gross earnings, gross expenses, and net earnings per acre.
    Value of improved land per acre.
    All items in the land-use section.
    Land tax per acre.
Figure 1 - Value of improved land.
    Yields for corn, oats, and wheat.
Table 4 - Source of income.
    Feed fed per acre to productive livestock.
    Returns per $100 worth of feed fed.
    Dairy returns per cow.
Table 5 - Size of farm.
    Value of improvements per acre.
    Total months of labor
    Number of work horses.
    Improvement cost per acre.
Table 6 - Size of farm and amount of feed fed per acre.
    Horse and machinery cost per crop acre.
    Labor cost per crop acre.

The terms used in the tables are the same as the terms used in the Illinois farm account book. For example, "improved land" is classified on Page 1 of the farm account book. It means tillable land and land occupied by farmstead, roads, and orchards. Likewise, "crop acres" are listed on Page 18, Line 36, of the farm account book. They include all the tillable land on which work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields. Ordinarily, the percent of tillable land in grain crops, net earnings per acre, and land tax per acre increase as the value per acre for improved land increases. The farms in Area 9 showed these tendencies; however, the relationships are not true in all cases because of the small number of records in each land value group (Table 3).

Yields per acre for corn, oats, and wheat increased as the land value increased from $15 per acre to $50 per acre (Fig. 1).

By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, crop yields, and net earnings per acre were high or low for 1941 in comparison with the average of other farms in his area having about the same value of improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 9, 1941

| Item | Source of income | | |
| --- | --- | --- | --- |
| | Hogs 40%+ | General farms | |
| | | L.S. 60%- | L.S. 60%+ |
| Number of farms[a] | 6 | 10 | 15 |
| Percent of income from productive livestock | 86.5 | 49.4 | 79.6 |
| Percent of income from crops | -- | 31.5 | 8.6 |
| Investments | | | |
| Total per farm | $12 859 | $10 054 | $13 354 |
| Total per acre | 56 | 48 | 53 |
| Land per acre | 30 | 24 | 26 |
| Improvements per acre | 8 | 8 | 9 |
| Machinery per acre | 5.55 | 6.63 | 5.67 |
| Earnings | | | |
| Per farm | | | |
| Gross earnings | $ 3 216 | $ 2 787 | $ 3 593 |
| Gross expenses | 1 927 | 1 647 | 2 208 |
| Net earnings | $ 1 289 | $ 1 140 | $ 1 385 |
| Per acre | | | |
| Gross earnings | $ 14.12 | $ 13.23 | $ 14.25 |
| Gross expenses | 8.46 | 7.82 | 8.76 |
| Net earnings | $ 5.66 | $ 5.41 | $ 5.49 |
| Rate earned on investment | 10.0% | 11.3% | 10.4% |
| Labor and management earnings | $ 1 047 | $ 1 110 | $ 1 160 |
| Size and Intensity | | | |
| Acres per farm | 228 | 211 | 252 |
| Percent of land area tillable | 83.4 | 81.4 | 69.2 |
| Percent of tillable land in grain | 42.4 | 41.5 | 38.4 |
| Percent in hay and pasture | 49.7 | 45.1 | 53.7 |
| Feed fed per acre to productive livestock | $ 7.63 | $ 3.25 | $ 5.58 |
| Months of labor per 100 crop acres | 17.4 | 19.5 | 22.5 |
| Total months of labor | 20.0 | 21.4 | 21.9 |
| Crop yields per Acre | | | |
| Corn, bu. | 34.4 | 30.7 | 36.7 |
| Wheat, bu. | 17.9 | 21.6 | 23.1 |
| Livestock Returns | | | |
| Per $100 feed fed | $ 172 | $ 231 | $ 218 |
| Hog returns per litter | 135 | 128 | 142 |
| Dairy returns per cow | 100 | 94 | 99 |
| Expense Factors | | | |
| Labor cost per crop acre | $ 7.64 | $ 7.87 | $ 9.55 |
| Horse and machinery cost per crop acre | 5.41 | 4.49 | 7.62 |
| Improvement cost per acre | .76 | .55 | .95 |
| Land tax per acre | .59 | .57 | .58 |

[a] Three fruit and truck farms not included.

Source of income. The grouping of accounting farms according to source of income for 1941 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer, however, should use caution in interpreting the data in Table 4. For example, the fact that the general farms with the least livestock showed a larger rate earned on the investment for 1941 than the general farms with the most livestock does not mean that such a relationship will prevail over a long period of years. The relative profitableness of various enterprises in 1940 was due largely to conditions affecting price and production.

In comparing the returns on the various groups of farms per $100 worth of feed fed, the farmer should consider the fact that there is a wide variation in the necessary returns per $100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, $195; dairy cattle, $157; hogs, $127; and feeder cattle, $117.

Furthermore, in any comparison of factors for the various groups of farms, one should consider the facts that the number of farms for which the averages are given is small and that the individual farms in each group are variable as to organization and management.

Differences in expenses are significant for the three groups of farms. Labor input per 100 crop acres was highest on the general farms with the most livestock, where 22.5 months of labor were used, and lowest on the hog farms where 17.4 months of labor were used.

The labor cost per crop acre ranged from $9.55 on the general farms with the most livestock to $7.64 on the hog farms. The horse and machinery cost per crop acre and the improvement cost per acre were also highest on the general farms with the most livestock but lowest on the general farms with the least livestock.

Size of farm. When the farm records in Farming-Type Area 9 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on the smaller ones; and, after deductions were made for farm business expenditures and interest on the investment, the 14 farms averaging 349 acres in size had labor and management earnings which averaged $1,344 contrasted with $9.47 for the 6 smallest farms. The smaller farms had higher investments per acre for land, improvements, and total investment, indicating a higher capital input. The rate earned on investment was somewhat lower for the 131 to 210 acre farms than for either of the other two groups, but there was a wide fluctuation in earnings in each size group.

The smaller farms were operated more intensively than were the larger ones. This variation was indicated by the much higher gross earnings per acre, by the percent of tillable land in grain, by the larger amount of feed fed per acre to productive livestock, and by the higher crop yields.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 9, 1941

| Item | Total acres in farm | | |
|---|---|---|---|
| | Less than 131 | 131 to 210 | 211 or more |
| Number of farms | 6 | 14 | 14 |
| Acres per farm | 100 | 170 | 349 |
| Investments | | | |
| Total per farm | $ 6 609 | $ 9 522 | $17 721 |
| Total per acre | 66 | 56 | 51 |
| Land per acre | 31 | 25 | 26 |
| Improvements per acre | 14 | 13 | 8 |
| Machinery per acre | 4.92 | 6.30 | 5.76 |
| Earnings | | | |
| Per farm | | | |
| Gross earnings | $ 2 316 | $ 2 589 | $ 4 473 |
| Gross expenses | 1 455 | 1 836 | 2 709 |
| Net earnings | $ 861 | $ 753 | $ 1 764 |
| Per acre | | | |
| Gross earnings | $ 23.16 | $ 15.18 | $ 12.81 |
| Gross expenses | 14.55 | 10.77 | 7.76 |
| Net earnings | $ 8.61 | $ 4.41 | $ 5.05 |
| Rate earned on investment | 13.0% | 7.9% | 10.0% |
| Labor and management earnings | $ 947 | $ 722 | $ 1 344 |
| Size and Intensity | | | |
| Percent of land area tillable | 87.8 | 81.6 | 71.2 |
| Percent of tillable land in grain | 42.4 | 38.1 | 38.7 |
| Percent in hay and pasture | 42.4 | 50.6 | 50.4 |
| Feed fed per acre to productive livestock | $ 9.29 | $ 4.79 | $ 4.93 |
| Percent of income from productive livestock | 76.0 | 62.0 | 70.0 |
| Percent of income from crops | 14.7 | 20.9 | 16.8 |
| Months of labor per 100 crop acres | 28.5 | 24.7 | 18.9 |
| Total months of labor | 16.9 | 21.9 | 26.6 |
| Number of work horses | 3.0 | 3.4 | 4.1 |
| Crop Yields per Acre | | | |
| Corn, bu. | 35.3 | 32.8 | 34.5 |
| Wheat, bu. | 24.6 | 18.5 | 22.2 |
| Livestock Returns | | | |
| Per $100 feed fed | $ 202 | $ 220 | $ 197 |
| Hog returns per litter | 97 | 149 | 133 |
| Dairy returns per cow | 89 | 90 | 106 |
| Expense Factors | | | |
| Labor cost per crop acre | $ 12.64 | $ 9.79 | $ 7.90 |
| Horse and machinery cost per crop acre | 5.61 | 6.33 | 6.74 |
| Improvement cost per acre | 1.78 | 1.42 | .76 |
| Land tax per acre | .67 | .65 | .53 |

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses. Labor expenses per crop acre increase as the amount of livestock per acre increases but decrease as the size of farm increases. Horse and machinery cost per crop acre, on the other hand, remained constant as the amount of livestock per acre increased and increased as the size of the farms increased. Therefore, the efficiency of a farm in the use of labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER CROP ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 9, 1941

| Acres per farm | Feed fed per acre | | | Feed fed per acre | | |
|---|---|---|---|---|---|---|
| | Less than $3.00 | $3.00 to $5.99 | $6.00 or more | Less than $3.00 | $3.00 to $5.99 | $6.00 or more |
| | (labor cost per crop acre) | | | (horse and machinery cost per crop acre) | | |
| Less than 131 | $10.10 | $12.00 | $13.00 | $5.60 | $5.60 | $5.60 |
| 131 to 210 | 8.00 | 9.80 | 10.40 | 6.30 | 6.30 | 6.30 |
| 211 or more | 7.30 | 8.30 | 9.00 | 6.70 | 6.70 | 6.70 |

## Producing for War Needs

In any given period gross receipts for hogs, cattle, dairy sales, eggs, and grain are relative measures of production (Table 7). Therefore the account keeper should use these standards to compare his own production with that of other account keepers. He should then adopt on his farm the kind of farm plan and the management practices that will make the best possible use of land, buildings, livestock, labor, machinery, and other resources for the duration of the war. Thus he will have more products to put on the nation's markets and so will be making the greatest possible contribution to the war effort.

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 9, 1938-1941

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1941 | 1940 | 1939 | 1938 |
| Number of farms | -- | 34 | 55 | 56 | 37 |
| Capital Investments | | | | | |
| Land | $ | $ 6 049 | $ 5 907 | $ 5 157 | $ 6 258 |
| Farm improvements | | 2 299 | 2 323 | 3 315 | 2 204 |
| Horses | | 396 | 375 | 392 | 543 |
| Productive livestock: Cattle | | 878 | 786 | 550 | 539 |
| Hogs | | 199 | 172 | 235 | 337 |
| Sheep | | 40 | 35 | 62 | 27 |
| Poultry | | 97 | 86 | 91 | 106 |
| Total productive livestock | ( ) | (1 214) | (1 079) | ( 938) | (1 009) |
| Feed and grain | | 1 068 | 843 | 768 | 1 077 |
| Machinery and equipment | | 1 154 | 1 061 | 995 | 936 |
| Automobile (farm share) | | 204 | 145 | 124 | 128 |
| Total | $ | $12 384 | $11 733 | $11 689 | $12 155 |
| Receipts and Net Increases | | | | | |
| Horses | $ | $ -- | $ 1 | $ 9 | $ 11 |
| Productive livestock: Cattle | | 569 | 377 | 266 | 212 |
| Dairy sales | | 559 | 364 | 298 | 312 |
| Hogs | | 825 | 299 | 306 | 627 |
| Sheep | | 47 | 39 | 25 | 14 |
| Poultry | | 74 | 58 | 41 | 42 |
| Egg sales | | 186 | 119 | 124 | 176 |
| Total productive livestock | ( ) | (2 260) | (1 256) | (1 060) | (1 383) |
| Farm products used in household | | 278 | 220 | 229 | 284 |
| Feed and grain | | 591 | 584 | 779 | 163 |
| Labor off farm | | 29 | 14 | 21 | 24 |
| Miscellaneous | | 20 | 2 | 15 | 3 |
| AAA payments | | 137 | 243 | 259 | 145 |
| Total | $ | $ 3 315 | $ 2 320 | $ 2 372 | $ 2 013 |
| Expenses and Net Decreases | | | | | |
| Farm improvements | $ | $ 239 | $ 50 | $ 227 | $ 145 |
| Horses | | 8 | -- | -- | -- |
| Productive livestock | | -- | -- | -- | -- |
| Feed and grain | | -- | -- | -- | -- |
| Machinery and equipment | | 436 | 319 | 264 | 217 |
| Automobile (farm share) | | 99 | 76 | 74 | 80 |
| Hired labor | | 313 | 249 | 411 | 195 |
| Miscellaneous | | 18 | 18 | 25 | 16 |
| Crop expense | | 156 | 96 | 75 | 72 |
| Livestock expense | | 36 | 19 | 24 | 13 |
| Taxes | | 159 | 147 | 135 | 141 |
| Total | $ | $ 1 464 | $ 974 | $ 1 235 | $ 879 |
| Receipts less expenses | $ | $ 1 851 | $ 1 346 | $ 1 137 | $ 1 134 |
| Family labor | | 214 | 156 | 120 | 133 |
| Returns for labor, capital, mgt. | $ | $ 1 637 | $ 1 190 | $ 1 017 | $ 1 001 |
| Operator's labor | | 449 | 374 | 402 | 388 |
| Net earnings per farm | $ | $ 1 188 | $ 816 | $ 615 | $ 613 |
| Rate Earned on Investment | % | 9.6% | 7.0% | 5.3% | 5.0% |
| Interest on investment | $ | $ 619 | $ 587 | $ 585 | $ 608 |
| Labor and Management Earnings | | 1 018 | 603 | 432 | 393 |
| Nonfarm income | $ | $ 90 | $ 41 | $ 147 | $ 129 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United States Department of Agriculture cooperating. H. P. Rusk, *Director*. Acts approved by Congress May 8 and June 30, 1914.

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## FARMING-TYPE AREA ONE
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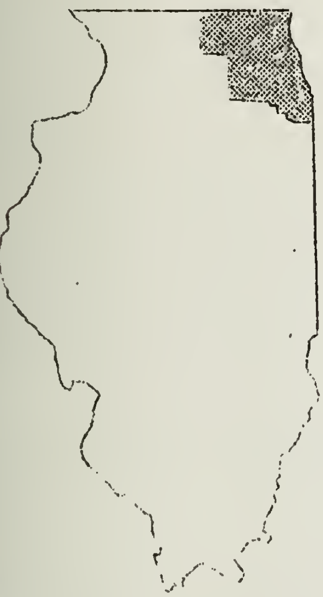
Annual Farm Business Report

# ON ONE HUNDRED FIFTY-FIVE FARMS IN FARMING-TYPE AREA 1, 1942

By P. E. Johnston, J. B. Cunningham, and F. J. Reiss[1]

War adjustments. Farm account cooperators in Farming-Type Area 1 responded to the war demand for increased production in 1942 over that in 1941 by increasing grain acreage and numbers of livestock.

| Item | 1941 | 1942 | Change |
|---|---|---|---|
| Acres per farm | 181 | 193 | 12 acres (6.6%) increase |
| Acres of grain crops | 82 | 90 | 8 acres (9.7%) increase |
| Number of dairy cows | 19.5 | 20.5 | 1 cow (5.1%) increase |
| Number of pigs weaned | 64 | 87 | 23 pigs (36.0%) increase |
| Number of hens | 119 | 122 | 3 hens (2.5%) increase |
| Total months of labor | 24.4 | 24.8 | 0.4 months (1.6%) increase |
| Value of machinery (beginning of year) | $2 170 | $2 675 | $505 (23.3%) increase |
| Tons of grain produced | 113 | 124 | 11 tons (9.7%) increase |
| Measure of volume of production for livestock and livestock products[2] | $6 462 | $7 247 | $785 (12.1%) increase |



▨ Farming-Type Area 1
Dairy and Truck

The cooperators used only .4 of one month more labor per farm, but they used considerably more machinery than in the previous year.

Total grain produced per farm increased from 113 to 124 tons--an increase of 9.7 percent. This was due to the combined effects of larger acreages and higher yields in 1942 than in 1941. Livestock production, as measured by receipts and net increases for livestock and livestock products, which are valued at the same price for 1942 as for 1941, increased about 12.1 percent.

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[1] W. N. Thompson supervised the closing of the farm accounts, and J. A. Snyder supervised the preparation of the tables used in this report. The project was conducted in cooperation with the county farm bureaus and was supervised by the following farm advisers: J. H. Brock, McHenry; A. C. Johnson, Kane; D. M. Chalcraft, Boone; H. S. Wright, DuPage; Ray T. Nicholas, Lake; and C. A. Hughes, Cook.

[2] For 1941 actual receipts and net increases were used; for 1942 receipts and net increases were adjusted to the 1941 price level by dividing the 1942 receipts and net increases by the ratio of 1942 to 1941 Illinois farm price for each class of livestock or livestock product, except dairy products, for which Chicago milk prices were used.

## TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 1, 1939-1942

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1942 | 1941 | 1940 | 1939 |
| Inventory Changes | | | | | |
| Land improvements | $ | $ 83 | $ 204 | $ 81 | $ -4 |
| Farm buildings | | 232 | | | |
| Horses | | -22 | -30 | -28 | -9 |
| Productive livestock | | 849 | 875 | 424 | 439 |
| Feed, grain, and seeds | | 489 | 962 | 352 | 374 |
| Machinery and equipment | | 58 | 363 | 42 | 79 |
| Automobile (farm share) | | -1 | 39 | 1 | 8 |
| Total | $ | $ 1688 | $ 2413 | $ 872 | $ 887 |
| Cash Receipts | | | | | |
| Land improvements | $ | $ 1 | $ 6 | $ 14 | $ 2 |
| Farm buildings | | 17 | | | |
| Horses | | 41 | 41 | 53 | 35 |
| Productive livestock: Cattle | | 4968 | 2969 | 2079 | 1085 |
| Dairy sales | | 3867 | 3285 | 2586 | 2130 |
| Hogs | | 2110 | 1120 | 698 | 492 |
| Sheep | | 110 | 99 | 31 | 86 |
| Poultry | | 112 | 91 | 94 | 91 |
| Egg sales | | 341 | 271 | 205 | 195 |
| Total productive livestock | ( ) | (11508) | (7835) | (5693) | (4079) |
| Feed, grain, and seeds | | 1096 | 666 | 532 | 414 |
| Machinery and equipment | | 260 | 224 | 181 | 153 |
| Automobile (farm share) | | 10 | 35 | 28 | 23 |
| AAA receipts | | 324 | 275 | 282 | 311 |
| Labor off farm | | 40 | 30 | 62 | 38 |
| Miscellaneous | | 11 | 23 | 7 | 9 |
| Total | $ | $13308 | $ 9135 | $ 6852 | $ 5064 |
| Cash Expenses | | | | | |
| Land improvements | $ | $ 290 | $ 626 | $ 421 | $ 289 |
| Farm buildings | | 825 | | | |
| Horses | | 36 | 26 | 52 | 40 |
| Productive livestock: Cattle | | 2989 | 2030 | 1255 | 747 |
| Hogs | | 192 | 115 | 46 | 86 |
| Sheep | | 67 | 58 | 34 | 61 |
| Poultry | | 49 | 45 | 37 | 37 |
| Total productive livestock | ( ) | (3297) | (2248) | (1372) | (931) |
| Feed and grain purchases | | 1498 | 935 | 677 | 517 |
| Crop and sealing expense | | 273 | 203 | 190 | 178 |
| Machinery and equipment | | 1445 | 1375 | 810 | 721 |
| Automobile (farm share) | | 160 | 181 | 123 | 110 |
| Livestock expense | | 148 | 103 | 79 | 80 |
| Hired labor | | 986 | 706 | 523 | 490 |
| Taxes | | 297 | 270 | 276 | 244 |
| Miscellaneous | | 74 | 34 | 28 | 34 |
| Total | $ | $ 9329 | $ 6707 | $ 4551 | $ 3634 |
| Summary | | | | | |
| Total inventory change | $ | $ 1688 | $ 2413 | $ 872 | $ 887 |
| Cash balance | | 3979 | 2428 | 2301 | 1430 |
| Farm products used in household | | 332 | 279 | 253 | 241 |
| Receipts less expenses | $ | $ 5999 | $ 5120 | $ 3426 | $ 2558 |
| Total unpaid labor | | 950 | 787 | 743 | 740 |
| Net earnings per farm | $ | $ 5049 | $ 4333 | $ 2683 | $ 1818 |
| Net earnings per acre | $- | $26.19 | $ 23.89 | $ 14.91 | $10.64 |

Net earnings. The net earnings per farm on an inventory basis were higher in 1942 than in 1941; the average was $5,049 in 1942 compared with $4,333 in 1941 (Table 1). The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding to the cash balance the value of farm products used in the household and the inventory increases and by subtracting from the resulting total the value of unpaid labor. Therefore this figure indicates the earning power of the business and determines the real value of the farm and its equipment. The average net earnings per acre were $26.19 in 1942, $23.89 in 1941, $14.91 in 1940, and $10.64 in 1939.

Inventory changes. The year 1942 was the tenth consecutive year in which inventories were increased. The largest increase for the past four years was $2,413 in 1941 and the smallest was $872 in 1940. In 1942 the largest increases were for livestock and feed, grain, and seeds. The average amounts of grain on hand in Area 1 at the two inventory periods were:

| Crop | Beginning of year (bushels) | End of year (bushels) |
|---|---|---|
| Corn | 2156 | 2230 |
| Oats | 1011 | 1150 |
| Wheat | 29 | 33 |
| Soybeans | 88 | 110 |

Cash receipts and cash expenses. In 1942 cash receipts exceeded cash expenses by $3,979, the largest margin for any year in the past four. The cash balance--the difference between cash receipts and expenses--is the amount of money which was available for family living expenses, interest, debt payments, and savings.

Unpaid family labor. Although there was no appreciable change in the amount of family labor available, the total valuation of unpaid labor was higher for 1942 than for any other year in the past four. This increase resulted from the fact that the physical labor of the operator and other members of the family was valued at $70 per month in 1942, at $55 per month in 1941, and at $50 per month in 1940 and 1939.

Variation in farm earnings. A wide variation was found in earnings on the farms in Area 1. For example, 36 farms earned less than 9 percent on their investment, with an average of 6.4 percent; but 14 farms earned 21 percent or more, with an average of 22.6 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had $1,100 for labor and management earnings contrasted with $6,755 for the latter group. The variation in earnings for all the records in the area was as follows:

| Rate earned on investment (percent) | Number of farms | Average rate earned (percent) | Acres per farm | Capital invested per farm | Gross earnings per farm | Net earnings per farm | Labor and management earnings |
|---|---|---|---|---|---|---|---|
| Less than 9.00 | 36 | 6.4 | 179 | $39 188 | $8 867 | $2 515 | $1 100 |
| 9.00 to 12.99 | 37 | 11.2 | 204 | 38 919 | 9 541 | 4 342 | 3 155 |
| 13.00 to 16.99 | 40 | 15.0 | 191 | 37 009 | 10 863 | 5 535 | 4 442 |
| 17.00 to 20.99 | 28 | 18.6 | 195 | 38 715 | 12 853 | 7 212 | 6 043 |
| 21.00 or more | 14 | 22.6 | 201 | 34 145 | 11 621 | 7 720 | 6 755 |

## TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 1, 1942

| Item | Your farm | Standards for your farm | Average of all farms |
|---|---|---|---|
| Rate earned on investment | % | 13.3% | 13.3% |
| Number of farms | -- | 155 | 155 |
| Acres in farm | | 193 | 193 |
| Acres tillable | | 158 | 158 |
| Acres in crops | | 134 | 134 |
| Gross earnings per acre | $ | $ a/ | $ 50.66 |
| Gross expenses per acre | | | 24.47 |
| Net earnings per acre | | | $ 26.19 |
| Investments | | | |
| Value of land per acre | $ | $ 91 | $ 91 |
| Value of improved land per acre | | a/ | 97 |
| Value of buildings per acre | | e/ | 37.34 |
| Total investment per acre | | 197 | 197 |
| Land Use | | | |
| Percent of land area tillable | | a/ | 81.8 |
| Percent of tillable land in: | | | |
| Corn | | | 34.4 |
| Oats | | | 19.7 |
| Barley | | | 4.0 |
| Soybeans | | | 5.5 |
| Other crops | | | 3.4 |
| Legume hay and pasture | | | 21.5 |
| Nonlegume hay and pasture | | | 11.5 |
| Crop Yields | | | |
| Corn | | b/ | 71.3 |
| Oats | | | 60.6 |
| Barley | | | 34.8 |
| Soybeans | | 13.2 | 13.2 |
| Livestock Factors | | | |
| Value of feed fed to prod. l.s. | $ | $ 5 348 | $5 348 |
| Feed fed per acre to prod. l.s. | | c/ | 27.74 |
| Returns per $100 worth of feed fed | | | 174 |
| Poultry returns per hen | | 4.30 | 4.30 |
| Number of litters farrowed | | 14.1 | 14.1 |
| Number of pigs weaned per litter | | 6.2 | 6.2 |
| Returns per litter farrowed | $ | $ 199 | $ 199 |
| Average number of cows milked | | 20.5 | 20.5 |
| Number of cows milked per 100 acres | | 10.6 | 10.6 |
| Dairy returns per cow milked | $ | $ c/ | $ 193 |
| Expense Factors | | | |
| Horse and machinery cost per crop acre | $ | $ d/ | $ 11.19 |
| Labor cost per crop acre | | | 14.15 |
| Total months of labor | | e/ | 24.8 |
| Number of work horses | | | 3.1 |
| Land improvements cost per acre | $ | $ 1.07 | $ 1.07 |
| Buildings cost per acre | | c/ | 2.99 |
| Land tax per acre | | a/ | 1.34 |

Source of Standards:
a/ Table 3, value of improved land.
b/ Fig. 1, value of improved land.
c/ Table 4, source of income.
d/ Table 6, size of farm and number of milk cows per 100 acres.
e/ Table 5, size of farm.

## CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

### Accounting Farms in Farming-Type Area 1, 1942

The numbers above the double lines across the middle of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

| | | | Factors that affect the gross earnings | | | | | | | | | | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Crop yields | | | | | | | | | | | |
| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Percent of tillable land in legume hay and pasture | Corn, bu. | Oats, bu. | Barley, bu. | Feed fed per acre to productive l.s. | Returns per $100 feed fed | Poultry returns per hen | Hog returns per litter farrowed | Dairy returns per cow milked | Gross expenses per acre | Horse and machinery cost per crop acre | Labor cost per crop acre | Buildings cost per acre |
| 23.3 | 393 | | | | | | | | 6.80 | 274 | | | | | |
| 21.3 | 353 | | | | | | | | 6.30 | 259 | | | | | |
| 19.3 | 313 | | | | | | | | 5.80 | 244 | | | | | |
| 17.3 | 273 | | | | | | | | 5.30 | 229 | | | | | |
| 15.3 | 233 | | | | | | | | 4.80 | 214 | | | | | |
| 13.3 | 193 | | | | | | | | 4.30 | 199 | | | | | |
| 11.3 | 153 | | | | | | | | 3.80 | 184 | | | | | |
| 9.3 | 113 | | | | | | | | 3.30 | 169 | | | | | |
| 7.3 | 73 | | | | | | | | 2.80 | 154 | | | | | |
| 5.3 | -- | | | | | | | | 2.30 | 139 | | | | | |
| 3.3 | -- | | | | | | | | 1.80 | 124 | | | | | |
| *2% | 40 | $4 | 2% | 4 | 4 | 3 | $4 | $15 | $.50 | $15 | $15 | $2 | $1 | $1 | $.50 |

*Each space between the horizontal lines represents the value indicated at bottom of each column.

### TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 1, 1942

| Item | Value of improved land | | | | | |
|---|---|---|---|---|---|---|
| | Less than $66 | $66 to $79 | $80 to $93 | $94 to $107 | $108 to $121 | 122 or more |
| Average value of improved land- | $59 | $75 | $86 | $100 | $115 | $129 |
| Number of farms - - - - - - - - - | 13 | 17 | 38 | 51 | 20 | 16 |
| Acres per farm - - - - - - - - - | 175 | 177 | 201 | 194 | 174 | 222 |
| Percent of land area tillable - | 71.8 | 76.8 | 80.3 | 82.5 | 88.3 | 87.3 |
| Percent of tillable land in: | | | | | | |
| Corn- - - - - - - - - - - - - - | 29.9 | 31.2 | 33.6 | 33.4 | 37.6 | 40.4 |
| Oats- - - - - - - - - - - - - - | 18.3 | 21.0 | 19.8 | 20.3 | 16.9 | 20.8 |
| Barley- - - - - - - - - - - - - | 6.6 | 3.2 | 3.8 | 2.9 | 6.5 | 3.7 |
| Soybeans- - - - - - - - - - - - | 4.0 | 3.6 | 4.6 | 5.7 | 7.7 | 6.5 |
| Other crops - - - - - - - - - - | 3.9 | 1.8 | 4.8 | 3.2 | 2.9 | 3.2 |
| Legume hay and pasture- - - - | 26.7 | 23.5 | 21.5 | 22.7 | 18.3 | 20.2 |
| Nonlegume hay and pasture - - | 10.6 | 15.7 | 11.9 | 11.8 | 10.1 | 5.2 |
| Gross earnings per acre - - - - | $42.41 | $47.03 | $45.91 | $50.31 | $67.21 | $60.77 |
| Gross expenses per acre - - - - | 24.48 | 23.26 | 22.03 | 23.45 | 34.18 | 30.77 |
| Net earnings per acre - - - - - | $17.93 | $23.77 | $23.88 | $26.86 | $33.03 | $30.00 |
| Land tax per acre - - - - - - - | $ 1.15 | $ 1.28 | $ 1.24 | $ 1.32 | $ 1.58 | $ 1.55 |

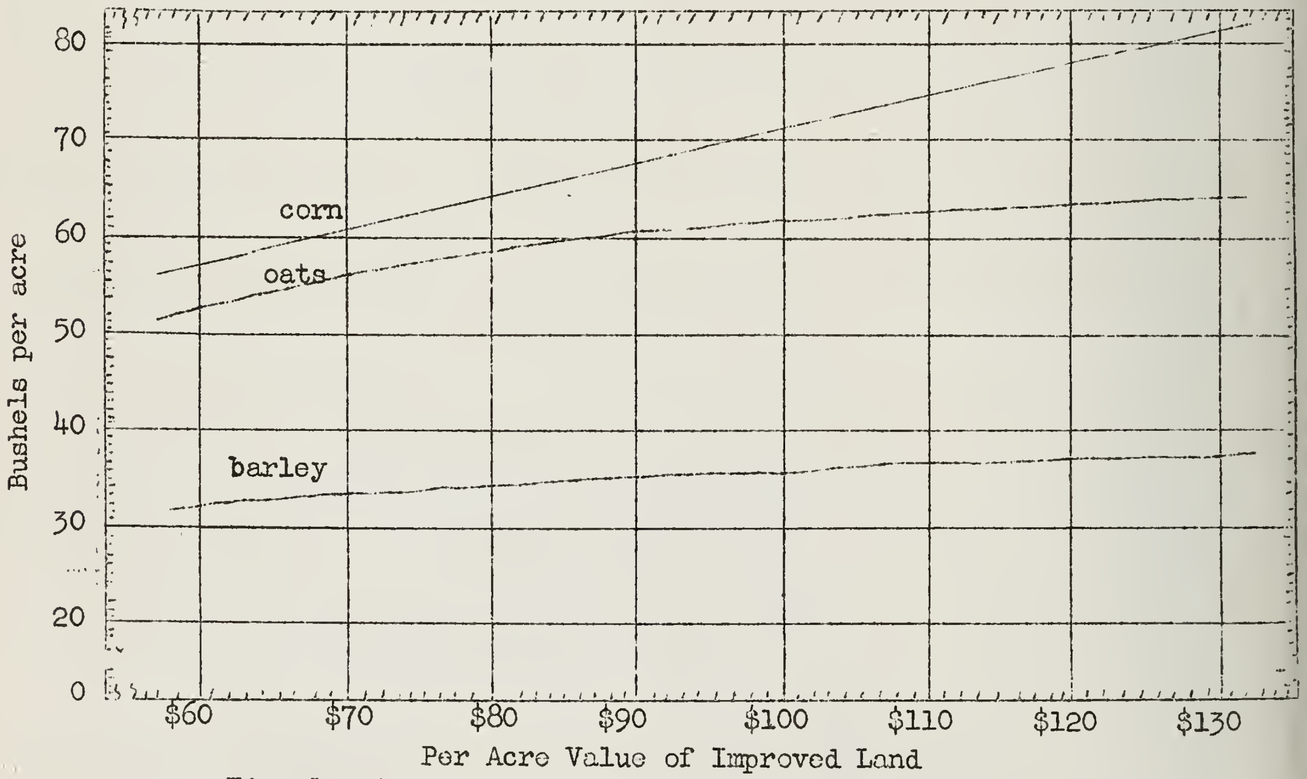

Fig. 1.--Average yields of corn, oats, and barley with varying values of improved land.

## Explanation of Tables

Variable standards are used in analyzing the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per $100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farm" (Table 2) are taken from Tables 3 to 6 and from Figure 1 as follows:

Table 3 - Value of improved land.
  Gross earnings, gross expenses, and net earnings per acre.
  Value of improved land per acre.
  All items in the land-use section.
  Land tax per acre.
Figure 1 - Value of improved land.
  Yields for corn, oats, and barley.
Table 4 - Source of income.
  Feed fed per acre to productive livestock.
  Returns per $100 worth of feed fed.
  Dairy returns per cow.
Table 5 - Size of farm.
  Value of buildings per acre.
  Total months of labor.
  Number of work horses.
  Buildings cost per acre.
Table 6 - Size of farm and number of milk cows per 100 acres.
  Horse and machinery cost per crop acre.
  Labor cost per crop acre.

The terms used in the tables are the same as the terms used in the Illinois farm account book. For example, "improved land" is classified on Page 1 of the farm account book. It means crop land, tillable pasture, and land occupied by farmstead, roads, and lanes. Likewise, "crop acres" are listed on Page 20 of the farm account book. They include all the tillable land on which a large amount of work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields. The percent of tillable land in grain crops increased as the value per acre for improved land increased (Table 3). Likewise the percent of land area tillable, the net earnings per acre, and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, and barley increased as the land value increased (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, his crop yields, and his net earnings per acre were high or low for 1942 in comparison with the average of other farms in his area having about the same value for improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 1, 1942

| Item | Source of income | | | |
|---|---|---|---|---|
| | Dairy sales 40% + | Hogs 40% + | Cattle 40% + | General farms L.S. 60% + |
| Number of farms | 94 | 17 | 17 | 27 |
| Percent of income from prod. l.s. | 90.7 | 85.5 | 96.2 | 92.5 |
| Percent of income from crops | 1,3 | 6.7 | -- | -- |
| Investments | | | | |
| Total per farm | $33 093 | $37 940 | $59 256 | $41 856 |
| Total per acre | 183 | 195 | 259 | 199 |
| Land per acre | 84 | 94 | 107 | 97 |
| Land improvements per acre | 3.14 | 3.95 | 3.31 | 4.20 |
| Buildings per acre | 36.42 | 40.25 | 42.46 | 34.94 |
| Machinery per acre | 15.18 | 14.81 | 16.53 | 14.86 |
| Earnings | | | | |
| Per farm | | | | |
| Gross earnings | $ 8 808 | $ 9 647 | $15 597 | $10 319 |
| Gross expenses | 4 383 | 4 386 | 8 316 | 4 635 |
| Net earnings | $ 4 425 | $ 5 261 | $ 7 218 | $ 5 684 |
| Per acre | | | | |
| Gross earnings | $ 48.69 | $ 49.60 | $ 68.28 | $ 49.02 |
| Gross expenses | 24.23 | 22.55 | 36.40 | 22.02 |
| Net earnings | $ 24.46 | $ 27.05 | $ 31.88 | $ 27.00 |
| Rate earned on investment | 13.4% | 13.9% | 12.3% | 13.6% |
| Labor and management earnings | $ 3 479 | $ 3 988 | $ 5 023 | $ 4 356 |
| Size and Intensity | | | | |
| Acres per farm | 181 | 194 | 228 | 210 |
| Percent of land area tillable | 79.9 | 80.7 | 90.5 | 82.3 |
| Percent tillable land in grain | 58.3 | 68.7 | 78.4 | 69.3 |
| Percent in hay and pasture | 38.8 | 29.7 | 18.4 | 28.6 |
| Feed fed per acre to prod. l.s. | $ 23.02 | $ 25.20 | $ 48.53 | $ 29.15 |
| Months of labor per 100 crop A. | 21.6 | 15.6 | 13.3 | 15.9 |
| Total months of labor | 25.6 | 21.5 | 25.6 | 23.7 |
| Crop Yields per Acre | | | | |
| Corn, bu. | 66.0 | 71.7 | 78.4 | 75.4 |
| Oats, bu. | 60.0 | 56.7 | 62,9 | 62.6 |
| Livestock Returns | | | | |
| Per $100 feed fed | $ 198 | $ 174 | $ 138 | $ 160 |
| Hog returns per litter | 191 | 224 | 180 | 194 |
| Dairy returns per cow | 200 | 168 | 129 | 173 |
| Expense Factors | | | | |
| Labor cost per crop acre | $ 16.24 | $ 12.41 | $ 10.75 | $ 12.09 |
| Horse and machinery cost per crop acre | 12.06 | 10.42 | 9.51 | 10.64 |
| Land improvements cost per acre | 1.03 | 1.20 | .98 | 1.17 |
| Buildings cost per acre | 2.77 | 3.27 | 4.07 | 2.74 |
| Land tax per acre | 1.32 | 1,34 | 1,36 | 1.40 |

Source of income. The grouping of accounting farms according to source of income for 1942 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer should, however, use caution in interpreting the data in Table 4. For example, the fact that hog farms earned the largest rate on the investment for 1942 and that cattle farms earned the smallest does not mean that such a relationship will prevail over a long period of years. The relative profitableness of these enterprises in 1942 was due largely to conditions affecting price and production.

In comparing the returns on the various groups of farms per $100 worth of feed fed, one should consider the fact that there is a wide variation in the needed returns per $100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, $195; dairy cattle, $157; hogs, $127; and feeder cattle, $117.

Differences in expenses are highly significant for the four groups of farms. Labor input per 100 crop acres was highest on the dairy farms, where 21.6 months of labor were used, and lowest on the cattle farms, where 13.3 months of labor were used. The dairy farmers evidently utilized a large amount of available labor to increase the size of their businesses without increasing the size of their farms.

The labor cost per crop acre ranged from $10.75 on the cattle farms to $16.24 on the dairy farms; the horse and machinery cost per crop acre was highest on the dairy farms where it averaged $12.06 and lowest on the cattle farms, where it averaged $9.51; and the buildings cost per acre was highest on the cattle farms but lowest on the general farms.

Size of farm. When the farm records in Farming-Type Area 1 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment than did the smaller ones. The value of land per acre was about the same for the various size groups but the value of buildings and machinery per acre declined as the size of farm increased.

Gross earnings and expenses per farm increased as the size of farm increased but earnings and expenses per acre decreased as farms became larger. These figures and the value of feed fed per acre to productive livestock indicate that the small farms were operated more intensively than were the larger ones. The rate earned on investment was largest for the two size groups over 180 acres in size.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 1, 1942

| Item | Total acres in farm | | | |
|---|---|---|---|---|
| | Less than 121 | 121 to 180 | 181 to 240 | 241 or more |
| Number of farms | 28 | 46 | 57 | 24 |
| Acres per farm | 101 | 154 | 211 | 331 |
| Investments | | | | |
| Total per farm | $21 003 | $30 892 | $40 649 | $65 297 |
| Total per acre | 207 | 200 | 193 | 198 |
| Land per acre | 90 | 89 | 89 | 95 |
| Land improvements per acre | 3.38 | 3.78 | 3.32 | 3.40 |
| Buildings per acre | 43.08 | 40.76 | 35.21 | 35.48 |
| Machinery per acre | 18.09 | 16.89 | 15.05 | 13.09 |
| Earnings | | | | |
| Per farm | | | | |
| Gross earnings | $ 6 085 | $ 8 044 | $10 660 | $15 970 |
| Gross expenses | 3 403 | 4 207 | 5 227 | 6 744 |
| Net earnings | $ 2 682 | $ 3 837 | $ 5 433 | $ 9 226 |
| Per acre | | | | |
| Gross earnings | $ 60.06 | $ 52.14 | $ 50.60 | $ 48.31 |
| Gross expenses | 33.59 | 27.27 | 24.81 | 20.40 |
| Net earnings | $ 26.47 | $ 24.87 | $ 25.79 | $ 27.91 |
| Rate earned on investment | 12.8% | 12.4% | 13.4% | 14.1% |
| Labor and management earnings | $ 2 304 | $ 3 046 | $ 4 117 | $ 6 606 |
| Size and Intensity | | | | |
| Percent of land area tillable | 82.5 | 82.4 | 81.2 | 81.9 |
| Percent tillable land in grain | 63.7 | 61.7 | 65.0 | 66.5 |
| Percent in hay and pasture | 34.9 | 36.2 | 32.6 | 29.8 |
| Feed fed per acre to prod. l.s. | $ 32.19 | $ 26.99 | $ 28.00 | $ 26.44 |
| Percent of income from prod. l.s. | 91.8 | 92.0 | 93.0 | 89.2 |
| Percent of income from crops | -- | -- | -- | 4.5 |
| Months of labor per 100 crop A. | 25.0 | 21.3 | 18.2 | 14.2 |
| Total months of labor | 18.1 | 23.0 | 26.3 | 32.6 |
| Number of work horses | 2.6 | 2.7 | 3.5 | 3.5 |
| Crop Yields per Acre | | | | |
| Corn, bu. | 66.3 | 69.8 | 70.7 | 74.4 |
| Oats, bu. | 61.7 | 58.6 | 59.0 | 64.2 |
| Livestock Returns | | | | |
| Per $100 feed fed | $ 178 | $ 183 | $ 173 | $ 166 |
| Hog returns per litter | 217 | 199 | 191 | 202 |
| Dairy returns per cow | 191 | 200 | 190 | 192 |
| Expense Factors | | | | |
| Labor cost per crop acre | $ 18.34 | $ 15.41 | $ 13.99 | $ 11.68 |
| Horse and machinery cost per crop acre | 13.51 | 12.43 | 10.83 | 9.78 |
| Land improvements cost per acre | .97 | 1.18 | 1.12 | .93 |
| Buildings cost per acre | 3.20 | 3.20 | 2.88 | 2.88 |
| Land tax per acre | 1.52 | 1.44 | 1.31 | 1.24 |

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses. Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases, but decrease as the size of farm increases. Therefore the efficiency of a farm in using labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and the number of milk cows per 100 acres (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND NUMBER OF MILK COWS PER 100 ACRES
Accounting Farms in Farming-Type Area 1, 1942

| Acres per farm | Milk cows per 100 acres | | | Milk cows per 100 acres | | |
|---|---|---|---|---|---|---|
| | Less than 11 | 11 to 15.9 | 16 or more | Less than 11 | 11 to 15.9 | 16 or more |
| | (labor cost per crop acre) | | | (horse and machinery cost per crop acre) | | |
| Less than 121 | $15.32 | $17.57 | $22.21 | $11.19 | $11.93 | $14.09 |
| 121 to 180 | 12.40 | 15.20 | 18.92 | 10.78 | 10.94 | 13.87 |
| 181 to 240 | 11.55 | 14.13 | 17.11 | 10.38 | 10.73 | 12.16 |
| 241 or more | 10.25 | 12.88 | 16.37 | 8.96 | 10.70 | 12.07 |

## Producing for War Needs

In any given period gross receipts for cattle, dairy sales, hogs, eggs, and grain are relative measures of production (Table 7). Therefore the account keeper should use these standards to compare his own production with that of other account keepers. He should then adopt on his farm the kind of farm plan and the management practices that will make the best possible use of land, buildings, livestock, labor, machinery, and other resources for the duration of the war. Thus he will have more products to put on the nation's markets and will be making the greatest possible contribution to the war effort.

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 1, 1939-1942

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1942 | 1941 | 1940 | 1939 |
| Number of farms | -- | 155 | 85 | 81 | 87 |
| Capital Investments | | | | | |
| Land | $ | $17 505 | $14 073 | $14 034 | $13 252 |
| Land improvements | | 666 | 6 897 | 6 350 | 5 873 |
| Farm buildings | | 7 199 | | | |
| Horses | | 328 | 337 | 394 | 391 |
| Productive livestock: Cattle | | 4 939 | 3 893 | 3 428 | 2 601 |
| Hogs | | 774 | 432 | 379 | 274 |
| Sheep | | 70 | 73 | 41 | 24 |
| Poultry | | 142 | 121 | 131 | 119 |
| Total productive livestock | ( ) | (5 925) | (4 519) | (3 979) | (3 018) |
| Feed, grain, and seeds | | 3 457 | 2 454 | 2 260 | 1 830 |
| Machinery and equipment | | 2 675 | 2 170 | 2 085 | 1 929 |
| Automobile (farm share) | | 265 | 171 | 156 | 129 |
| Total | $ | $38 020 | $30 621 | $29 258 | $26 422 |
| Receipts and Net Increases | | | | | |
| Horses | $ | $ -- | $ -- | $ -- | $ -- |
| Productive livestock: Cattle | | 2 369 | 1 499 | 1 200 | 730 |
| Dairy sales | | 3 867 | 3 285 | 2 586 | 2 130 |
| Hogs | | 2 324 | 1 278 | 668 | 430 |
| Sheep | | 55 | 58 | 26 | 42 |
| Poultry | | 104 | 71 | 60 | 60 |
| Egg sales | | 341 | 271 | 205 | 195 |
| Total productive livestock | ( ) | (9 060) | (6 462) | (4 745) | (3 587) |
| Farm products used in household | | 332 | 279 | 253 | 241 |
| Feed, grain, and seeds | | -- | 490 | 17 | 93 |
| AAA receipts | | 324 | 275 | 282 | 311 |
| Labor off farm | | 40 | 30 | 62 | 38 |
| Miscellaneous | | 11 | 23 | 7 | 9 |
| Total | $ | $ 9 767 | $ 7 559 | $ 5 366 | $ 4 279 |
| Expenses and Net Decreases | | | | | |
| Land improvements | $ | $ 206 | $ 416 | $ 326 | $ 291 |
| Farm buildings | | 576 | | | |
| Horses | | 17 | 15 | 27 | 14 |
| Productive livestock | | -- | -- | -- | -- |
| Feed, grain, and seeds | | 186 | -- | -- | -- |
| Machinery and equipment | | 1 127 | 788 | 587 | 489 |
| Automobile (farm share) | | 151 | 107 | 94 | 79 |
| Livestock expense | | 148 | 103 | 79 | 80 |
| Hired labor | | 986 | 706 | 523 | 490 |
| Taxes | | 297 | 270 | 276 | 244 |
| Miscellaneous | | 74 | 34 | 28 | 34 |
| Total | $ | $ 3 768 | $ 2 439 | $ 1 940 | $ 1 721 |
| Receipts less expenses | $ | $ 5 999 | $ 5 120 | $ 3 426 | $ 2 558 |
| Family labor | | 241 | 189 | 199 | 224 |
| Returns for labor, capital, mgt. | $ | $ 5 758 | $ 4 931 | $ 3 227 | $ 2 334 |
| Operator's labor | | 709 | 598 | 544 | 516 |
| Net earnings per farm | $ | $ 5 049 | $ 4 333 | $ 2 683 | $ 1 818 |
| Rate Earned on Investment | % | 13.3% | 14.2% | 9.2% | 6.9% |
| Interest on investment | $ | $ 1 901 | $ 1 531 | $ 1 463 | $ 1 321 |
| Labor and Management Earnings | | 3 857 | 3 400 | 1 764 | 1 013 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United States Department of Agriculture cooperating. H. P. Rusk, *Director.* Acts approved by Congress May 8 and June 30, 1914.

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# FARM BUSINESS REPORT . . . 1942

Beef cattle are adapted to the available land, labor, and equipment found on many farms.
This is especially true when maximum use is made of roughages.

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## FARMING-TYPE AREA TWO
## Northwestern Mixed Livestock Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

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Annual Farm Business Report

# ON FIVE HUNDRED SIXTEEN FARMS IN FARMING-TYPE AREA 2, 1942

By P. E. Johnston, J. B. Cunningham, and E. L. Sauer[1]

War adjustments. Farm account cooperators in Farming-Type Area 2 responded to the war demand for increased production in 1942 over that in 1941 by increasing grain acreage and numbers of livestock.

| Item | 1941 | 1942 | Change |
|---|---|---|---|
| Acres per farm | 208 | 206 | 2 acres decrease |
| Acres of grain crops | 98 | 104 | 6 acres increase |
| Number of dairy cows | 10 | 11 | 1 cow increase |
| Number of pigs weaned | 125 | 133 | 8 pigs increase |
| Number of hens | 117 | 125 | 8 hens increase |
| Total months of labor | 21 | 22 | 1 month increase |
| Value of machinery (beginning of year) | $2 103 | $2 276 | $173 increase |
| Tons of grain produced | 137 | 153 | 16 tons (11.7%) increase |
| Measure of volume of production for livestock and livestock products[2] | $6 627 | $6 853 | $226 (3.4%) increase |

▨ Farming-Type Area 2
Mixed Livestock

The cooperators used one month more labor per farm and used more machinery than in the previous year.

Total grain produced per farm increased from 137 to 153 tons--an increase of 12 percent. This was due to the combined effects of larger acreages and higher yields in 1942 than in 1941. Livestock production, as measured by receipts and net increases for livestock and livestock products, which are valued at the same price for 1942 as for 1941, increased about 3 percent.

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[1] W. N. Thompson supervised the closing of the farm accounts and the preparation of the tables used in this report. The project was conducted in cooperation with the county farm bureaus and was supervised by the following farm advisers:

D. G. McAllister, DeKalb; V. J. Banter, Stephenson; C. E. Yale, Lee; D. E. Warren, Ogle; R. C. Smith, Rock Island; H. E. Kearnaghan, Jo Daviess; F. H. Shuman, Whiteside; M. P. Roske, Carroll; and H. R. Brunnemeyer, Winnebago.

[2] For 1941 actual receipts and net increases were used; for 1942 receipts and net increases were adjusted to the 1941 price level by dividing the 1942 receipts and net increases by the ratio of 1942 to 1941 Illinois farm price for each class of livestock or livestock product.

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 2, 1939-1942

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1942 | 1941 | 1940 | 1939 |
| Inventory Changes | | | | | |
| Land improvements - - - - - - - - - | $ | $ 22 | $) 95 | $ 74 | $ 104 |
| Farm buildings- - - - - - - - - - - | | 22 | ) | | |
| Horses- - - - - - - - - - - - - - - | | -13 | -24 | -34 | -33 |
| Productive livestock- - - - - - - | | 1442 | 1067 | 552 | 516 |
| Feed, grain, and seeds- - - - - - | | 739 | 882 | 112 | 521 |
| Machinery and equipment - - - - - | | 168 | 210 | 63 | 86 |
| Automobile (farm share) - - - - - | | -21 | 44 | 4 | -3 |
| Total - - - - - - - - - - - - - - | $ | $ 2359 | $ 2274 | $ 771 | $ 1191 |
| Cash Receipts | | | | | |
| Land improvements - - - - - - - - - | $ | $ 1 | $) 9 | $ 13 | $ 32 |
| Farm buildings- - - - - - - - - - - | | 5 | ) | | |
| Horses- - - - - - - - - - - - - - - | | 29 | 25 | 29 | 44 |
| Productive livestock: Cattle- - - | | 4167 | 3493 | 3464 | 2656 |
| Dairy sales | | 1424 | 1202 | 822 | 669 |
| Hogs- - - - | | 3948 | 2377 | 1459 | 1392 |
| Sheep - - - | | 214 | 216 | 195 | 205 |
| Poultry - - | | 154 | 124 | 93 | 87 |
| Egg sales - | | 363 | 255 | 171 | 151 |
| Total productive livestock- - - - | ( ) | (10270) | ( 7667) | ( 6204) | ( 5160) |
| Feed, grain, and seeds- - - - - - | | 1212 | 901 | 927 | 842 |
| Machinery and equipment - - - - - | | 188 | 214 | 199 | 188 |
| Automobile (farm share) - - - - - | | 19 | 60 | 39 | 32 |
| AAA receipts- - - - - - - - - - - | | 326 | 391 | 399 | 576 |
| Labor off farm- - - - - - - - - - | | 27 | 31 | 38 | 38 |
| Miscellaneous - - - - - - - - - - | | 8 | 12 | 9 | 11 |
| Total - - - - - - - - - - - - - - | $ | $12085 | $ 9310 | $ 7857 | $ 6923 |
| Cash Expenses | | | | | |
| Land improvements - - - - - - - - - | $ | $ 182 | $) 476 | $ 390 | $ 426 |
| Farm buildings- - - - - - - - - - - | | 387 | ) | | |
| Horses- - - - - - - - - - - - - - - | | 30 | 21 | 22 | 28 |
| Productive livestock: Cattle- - - | | 2388 | 1815 | 1938 | 1740 |
| Hogs- - - - | | 215 | 123 | 96 | 119 |
| Sheep - - - | | 92 | 130 | 107 | 137 |
| Poultry - - | | 50 | 39 | 31 | 32 |
| Total productive livestock- - - - | ( ) | ( 2745) | ( 2107) | ( 2172) | ( 2028) |
| Feed and grain purchases- - - - | | 1620 | 1117 | 827 | 695 |
| Crop and sealing expense- - - - | | 221 | 163 | 180 | 175 |
| Machinery and equipment - - - - - | | 1223 | 1059 | 798 | 778 |
| Automobile (farm share) - - - - - | | 149 | 222 | 146 | 130 |
| Livestock expense - - - - - - - - | | 108 | 78 | 63 | 66 |
| Hired labor - - - - - - - - - - - | | 549 | 417 | 367 | 362 |
| Taxes - - - - - - - - - - - - - - | | 280 | 281 | 277 | 266 |
| Miscellaneous - - - - - - - - - - | | 44 | 39 | 35 | 33 |
| Total - - - - - - - - - - - - - - | $ | $ 7538 | $ 5980 | $ 5277 | $ 4987 |
| Summary | | | | | |
| Total inventory change- - - - - | $ | $ 2359 | $ 2274 | $ 771 | $ 1191 |
| Cash balance- - - - - - - - - - - | | 4547 | 3330 | 2580 | 1936 |
| Farm products used in household - | | 330 | 276 | 247 | 250 |
| Receipts less expenses- - - - - - | $ | $ 7236 | $ 5880 | $ 3598 | $ 3377 |
| Total unpaid labor- - - - - - - - | | 1074 | 810 | 736 | 732 |
| Net earnings per farm - - - - - - | $ | $ 6162 | $ 5070 | $ 2862 | $ 2645 |
| Net earnings per acre - - - - - - | $ | $29.86 | $24.35 | $13.51 | $12.65 |

Net earnings. The net earnings per farm on an inventory basis were higher in 1942 than in 1941; the average was $6,162 in 1942 compared with $5,070 in 1941 (Table 1). The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding to the cash balance the value of farm products used in the household and the inventory increases and by subtracting from the resulting total the value of unpaid labor. Therefore this figure indicates the earning power of the business and determines the real value of the farm and its equipment. The average net earnings per acre were $29.86 in 1942, $24.35 in 1941, $13.51 in 1940, and $12.65 in 1939.

Inventory changes. The year 1942 was the tenth consecutive year in which inventories were increased. The largest increase for the past four years was $2,359 in 1942 and the smallest was $771 in 1940. In 1942 the largest increases were for livestock and feed, grain, and seeds. The average amounts of grain on hand in Area 2 at the two inventory periods were:

| Crop | Beginning of year (bushels) | End of year (bushels) |
|---|---|---|
| Corn | 2776 | 3154 |
| Oats | 987 | 1047 |
| Wheat | 25 | 36 |
| Soybeans | 69 | 124 |

Cash receipts and cash expenses. In 1942 cash receipts exceeded cash expenses by $4,547, the largest margin for any year in the past four. The cash balance--the difference between cash receipts and expenses--is the amount of money which was available for family living expenses, interest, debt payments, and savings.

Unpaid family labor. Although there was no appreciable change in the amount of family labor available, the total valuation of unpaid labor was higher for 1942 than for any other year in the past four. This increase resulted from the fact that the physical labor of the operator and other members of the family was valued at $70 per month in 1942, at $55 per month in 1941, and at $50 per month in 1940 and 1939.

Variation in farm earnings. A wide variation was found in earnings on the farms in Area 2. For example, 52 farms earned less than 10 percent on their investment, with an average of 6.5 percent; but 71 farms earned 25 percent or more, with an average of 29.5 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had $1,312 for labor and management earnings contrasted with $7,903 for the latter group. The variation in earnings for all the records in the area was as follows:

| Rate earned on investment (percent) | Number of farms | Average rate earned (percent) | Acres per farm | Capital invested per farm | Gross earnings per farm | Net earnings per farm | Labor and management earnings |
|---|---|---|---|---|---|---|---|
| Less than 10.00 | 52 | 6.5 | 225 | $35 670 | $7 155 | $2 309 | $1 312 |
| 10.00 to 14.99 | 113 | 12.9 | 219 | 40 230 | 9 999 | 5 209 | 3 976 |
| 15.00 to 19.99 | 141 | 17.4 | 208 | 36 827 | 10 752 | 6 397 | 5 354 |
| 20.00 to 24.99 | 107 | 21.9 | 195 | 32 706 | 10 995 | 7 161 | 6 334 |
| 25.00 or more | 71 | 29.5 | 186 | 28 959 | 13 055 | 8 531 | 7 903 |

TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 2, 1942

| Item | Your farm | Standards for your farm | Average of all farms |
|---|---|---|---|
| Rate earned on investment | ______% | 17.4% | 17.4% |
| Number of farms | -- | -- | 484 |
| Acres in farm | ______ | 206 | 206 |
| Acres tillable | ______ | 169 | 169 |
| Acres in crops | ______ | 137 | 137 |
| Gross earnings per acre | $______ | $______ a/ | $ 47.33 |
| Gross expenses per acre | ______ | ______ | 17.47 |
| Net earnings per acre | | | 29.86 |
| Investments | | | |
| Value of land per acre | $______ | $ 89 | $ 89 |
| Value of improved land per acre | ______ | ______ a/ | 96 |
| Value of buildings per acre | ______ | ______ e/ | 25 |
| Total investment per acre | | 172 | 172 |
| Land Use | | | |
| Percent of land area tillable | ______ | ______ a/ | 82.0 |
| Percent of tillable land in: | | | |
| Corn | ______ | ______ | 33.7 |
| Oats | ______ | ______ | 20.8 |
| Wheat | ______ | ______ | .9 |
| Soybeans | ______ | ______ | 6.4 |
| Other crops | ______ | ______ | 4.5 |
| Legume hay and pasture | ______ | ______ | 22.7 |
| Nonlegume hay and pasture | | | 11.0 |
| Crop Yields | | | |
| Corn | ______ | ______ b/ | 76.6 |
| Oats | ______ | ______ | 51.2 |
| Wheat | ______ | 26.2 | 26.2 |
| Soybeans | | b/ | 18.0 |
| Livestock Factors | | | |
| Value of feed fed to prod. l.s. | $______ | $5 164 | $5 164 |
| Feed fed per acre to prod. l.s. | ______ | ______ c/ | 25.02 |
| Returns per $100 worth of feed fed | ______ | ______ | 178 |
| Poultry returns per hen | ______ | 4.46 | 4.46 |
| Number of litters farrowed | ______ | 20.8 | 20.8 |
| Number of pigs weaned per litter | ______ | 6.4 | 6.4 |
| Returns per litter farrowed | $______ | $ 226 | $ 226 |
| Average number of cows milked | ______ | 10.8 | 10.8 |
| Dairy returns per cow milked | $ | $ c/ | $ 140 |
| Expense Factors | | | |
| Horse and machinery cost per crop acre | $______ | $______ d/ | $ 8.51 |
| Labor cost per crop acre | ______ | ______ | 11.62 |
| Total months of labor | ______ | ______ e/ | 22.0 |
| Number of work horses | ______ | ______ | 2.9 |
| Land improvements cost per acre | $______ | $ .77 | $ .77 |
| Buildings cost per acre | ______ | ______ e/ | 1.74 |
| Land tax per acre | | a/ | 1.17 |

Source of Standards:

a/ Table 3, value of improved land.
b/ Fig. 1, value of improved land.
c/ Table 4, source of income.
d/ Table 6, size of farm and value o
feed fed per acre.
e/ Table 5, size of farm.

# CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

## Accounting Farms in Farming-Type Area 2, 1942

The numbers above the double lines across the middle of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

| | | | Factors that affect the gross earnings | | | | | | | | | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Crop yields | | | | | | | | | | |
| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Percent of tillable land in legume hay and pasture | Corn, bu. | Oats, bu. | Feed fed per acre to prod. l.s. | Returns per $100 feed fed | Poultry returns per hen | Hog returns per litter farrowed | Dairy returns per cow milked | Gross expenses per acre | Horse and machinery cost per crop acre | Labor cost per crop acre | Buildings cost per acre |
| 32.4 | 456 | | | | | | | 6.96 | 301 | | | | | |
| 29.4 | 406 | | | | | | | 6.46 | 286 | | | | | |
| 26.4 | 356 | | | | | | | 5.96 | 271 | | | | | |
| 23.4 | 306 | | | | | | | 5.46 | 256 | | | | | |
| 20.4 | 256 | | | | | | | 4.96 | 241 | | | | | |
| 17.4 | 206 | | | | | | | 4.46 | 226 | | | | | |
| 14.4 | 156 | | | | | | | 3.96 | 211 | | | | | |
| 11.4 | 106 | | | | | | | 3.46 | 196 | | | | | |
| 8.4 | 56 | | | | | | | 2.96 | 181 | | | | | |
| 5.4 | -- | | | | | | | 2.46 | 166 | | | | | |
| 2.4 | -- | | | | | | | 1.96 | 151 | | | | | |
| * 3% | 50 | $4 | 2% | 5 | 5 | $4 | $15 | $.50 | $15 | $10 | $2 | $.50 | $1 | $.30 |

*Each space between lines represents the values indicated at bottom of each column.

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS
RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 2, 1942

| Item | Value of improved land | | | | | |
|---|---|---|---|---|---|---|
| | Less than $53 | $53 to $72 | $73 to $92 | $93 to $112 | $113 to $132 | $133 or more |
| Average value of improved land- | $43 | $64 | $83 | $103 | $123 | $143 |
| Number of farms - - - - - - - - - | 54 | 92 | 121 | 72 | 80 | 65 |
| Acres per farm- - - - - - - - - - | 202 | 206 | 206 | 191 | 223 | 214 |
| Percent of land area tillable - | 65.2 | 75.3 | 80.9 | 86.8 | 88.8 | 92.7 |
| Percent of tillable land in: | | | | | | |
| Corn- - - - - - - - - - - - - - | 27.3 | 29.6 | 33.2 | 34.8 | 37.0 | 37.3 |
| Oats- - - - - - - - - - - - - - | 19.3 | 21.4 | 20.5 | 20.5 | 20.9 | 21.5 |
| Wheat - - - - - - - - - - - - - | 1.4 | .6 | 1.2 | 1.1 | .9 | .7 |
| Soybeans- - - - - - - - - - - - | 2.3 | 4.4 | 5.4 | 6.7 | 9.8 | 8.2 |
| Other crops - - - - - - - - - - | 6.5 | 4.6 | 4.2 | 3.6 | 4.6 | 3.9 |
| Legume hay and pasture- - - - | 27.2 | 27.3 | 24.7 | 21.8 | 18.2 | 19.9 |
| Nonlegume hay and pasture - - | 16.0 | 12.1 | 10.8 | 11.5 | 8.6 | 8.5 |
| Gross earnings per acre - - - - | $34.38 | $41.59 | $46.03 | $ 49.48 | $ 53.84 | $ 60.67 |
| Gross expenses per acre - - - - | 15.67 | 17.67 | 17.15 | 18.58 | 18.64 | 20.31 |
| Net earnings per acre - - - - - | $18.71 | $23.92 | $28.88 | $ 30.90 | $ 35.20 | $ 40.36 |
| Land tax per acre - - - - - - - | $ .86 | $ .98 | $ 1.14 | $ 1.36 | $ 1.30 | $ 1.40 |

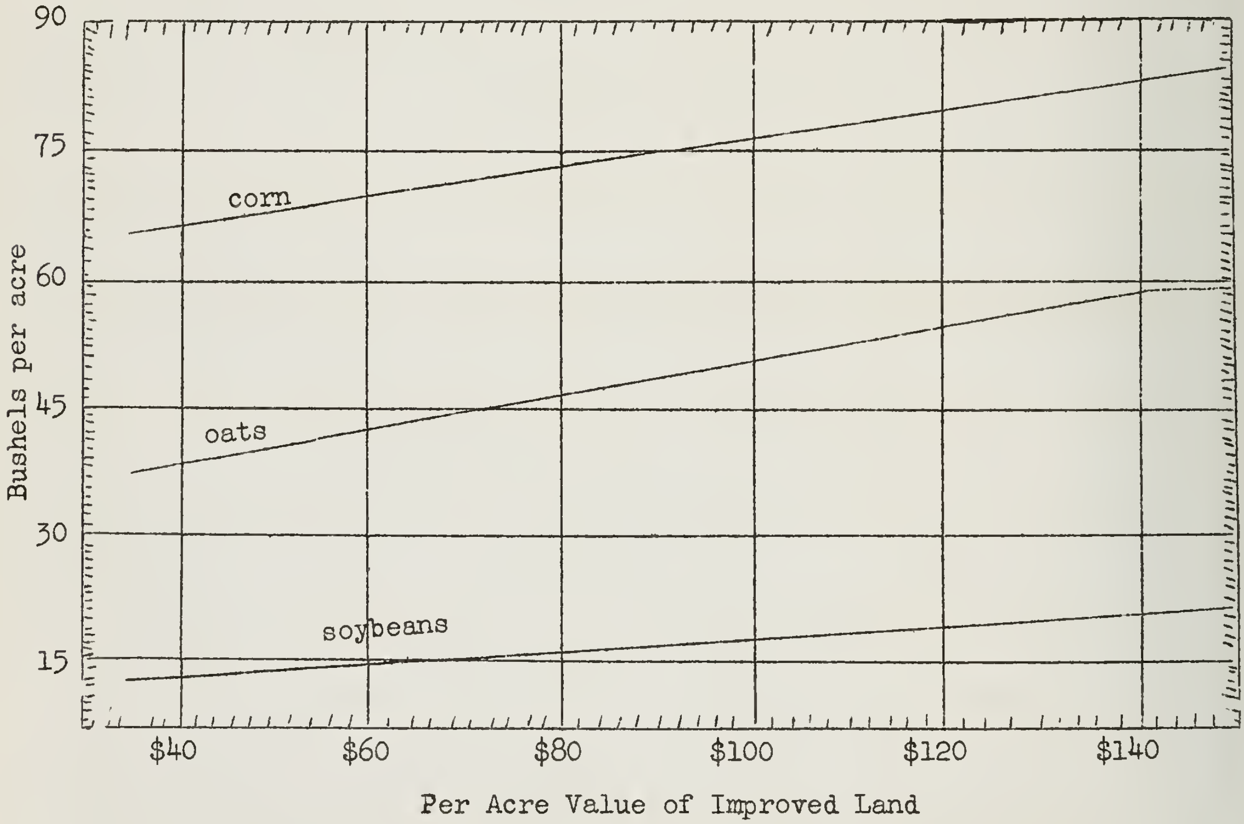

Fig. 1.--Average yields of corn, oats, and soybeans with varying values of improved land.

## Explanation of Tables

Variable standards are used in analyzing the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per $100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farm" (Table 2) are taken from Tables 3 to 6 and from Figure 1 as follows:

Table 3 - Value of improved land.
  Gross earnings, gross expenses, and net earnings per acre.
  Value of improved land per acre.
  All items in the land-use section.
  Land tax per acre.
Figure 1 - Value of improved land.
  Yields for corn, oats, and soybeans.
Table 4 - Source of income.
  Feed fed per acre to productive livestock.
  Returns per $100 worth of feed fed.
  Dairy returns per cow.
Table 5 - Size of farm.
  Value of buildings per acre.
  Total months of labor.
  Number of work horses.
  Buildings cost per acre.
Table 6 - Size of farm and amount of feed fed per acre.
  Horse and machinery cost per crop acre.
  Labor cost per crop acre.

The terms used in the tables are the same as the terms used in the Illinois farm account book. For example, "improved land" is classified on Page 1 of the farm account book. It means crop land, tillable pasture, and land occupied by farmstead, roads, and lanes. Likewise, "crop acres" are listed on Page 20 of the farm account book. They include all the tillable land on which a large amount of work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields. The percent of tillable land in grain crops increased as the value per acre for improved land increased (Table 3). Likewise the percent of land area tillable, the net earnings per acre, and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, and soybeans increased as the land value increased (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, his crop yields, and his net earnings per acre were high or low for 1942 in comparison with the average of other farms in his area having about the same value for improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 2, 1942

| Item | Source of income | | | | | |
|---|---|---|---|---|---|---|
| | | | | | General farms | |
| | Grain 40%+ | Dairy sales 40% + | Hogs 40%+ | Cattle 40% + | L.S. 60%- | L.S. 60% + |
| Number of farms | 18 | 24 | 239 | 57 | 16 | 130 |
| Percent of income from prod. l.s. | 35.5 | 94.3 | 93.5 | 93.8 | 55.4 | 89.5 |
| Percent of income from crops | 56.8 | -- | -- | -- | 34.6 | 2.8 |
| Investments | | | | | | |
| Total per farm | $46 184 | $32 421 | $31 598 | $52 260 | $40 575 | $33 536 |
| Total per acre | 174 | 163 | 164 | 211 | 167 | 166 |
| Land per acre | 107 | 77 | 85 | 105 | 98 | 87 |
| Land improvements per acre | 2.91 | 3.11 | 3.65 | 4.80 | 4.11 | 3.01 |
| Buildings per acre | 20.89 | 35.15 | 24.35 | 28.19 | 21.27 | 25.16 |
| Machinery per acre | 11.09 | 13.73 | 12.48 | 14.25 | 11.85 | 11.83 |
| Earnings | | | | | | |
| Per farm | | | | | | |
| Gross earnings | $10 078 | $ 8 544 | $ 9 838 | $14 011 | $10 008 | $ 8 994 |
| Gross expenses | 3 640 | 4 198 | 3 719 | 5 732 | 3 805 | 3 389 |
| Net earnings | $ 6 438 | $ 4 346 | $ 6 119 | $ 8 279 | $ 6 203 | $ 5 605 |
| Per acre | | | | | | |
| Gross earnings | $ 37.94 | $ 43.06 | $ 51.04 | $ 56.47 | $ 41.30 | $ 44.48 |
| Gross expenses | 13.70 | 21.16 | 19.29 | 23.10 | 15.70 | 16.76 |
| Net earnings | $ 24.24 | $ 21.90 | $ 31.75 | $ 33.37 | $ 25.60 | $ 27.72 |
| Rate earned on investment | 13.9% | 13.4% | 19.4% | 15.8% | 15.3% | 16.7% |
| Labor and management earnings | $ 4 887 | $ 3 542 | $ 5 342 | $ 6 442 | $ 4 957 | $ 4 732 |
| Size and Intensity | | | | | | |
| Acres per farm | 266 | 198 | 193 | 248 | 242 | 202 |
| Percent of land area tillable | 87.8 | 80.7 | 80.6 | 88.2 | 84.2 | 80.1 |
| Percent tillable land in grain | 74.5 | 55.1 | 63.4 | 65.9 | 68.8 | 61.5 |
| Percent in hay and pasture | 24.4 | 41.6 | 34.4 | 30.6 | 27.7 | 35.7 |
| Feed fed per acre to prod. l.s. | $ 7.81 | $ 23.30 | $ 26.25 | $ 34.82 | $ 13.02 | $ 22.77 |
| Months of labor per 100 crop A. | 9.4 | 20.1 | 17.1 | 14.0 | 12.9 | 16.4 |
| Total months of labor | 18.8 | 25.0 | 21.5 | 25.8 | 21.4 | 21.1 |
| Crop Yields per Acre | | | | | | |
| Corn, bu. | 76.2 | 73.1 | 76.1 | 80.2 | 72.8 | 76.4 |
| Oats, bu. | 47.4 | 49.4 | 49.7 | 52.7 | 53.0 | 53.9 |
| Livestock Returns | | | | | | |
| Per $100 feed fed | $ 181 | $ 180 | $ 187 | $ 155 | $ 184 | $ 180 |
| Hog returns per litter | 215 | 187 | 233 | 213 | 232 | 218 |
| Dairy returns per cow | 111 | 193 | 132 | 124 | 130 | 142 |
| Expense Factors | | | | | | |
| Labor cost per crop acre | $ 6.63 | $ 15.78 | $ 12.27 | $ 10.44 | $ 9.19 | $ 11.88 |
| Horse and machinery cost per crop acre | 6.73 | 9.60 | 8.79 | 8.20 | 8.13 | 8.47 |
| Land improvements cost per acre | .62 | .65 | .77 | 1.13 | .79 | .64 |
| Buildings cost per acre | 1.50 | 1.73 | 1.69 | 1.97 | 1.70 | 1.75 |
| Land tax per acre | 1.14 | 1.08 | 1.19 | 1.25 | 1.16 | 1.14 |

Source of income. The grouping of accounting farms according to source of income for 1942 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer should, however, use caution in interpreting the data in Table 4. For example, the fact that hog farms earned the largest rate on the investment for 1942 and that dairy farms earned the smallest does not mean that such a relationship will prevail over a long period of years. The relative profitableness of these enterprises in 1942 was due largely to conditions affecting price and production.

In comparing the returns on the various groups of farms per $100 worth of feed fed, one should consider the fact that there is a wide variation in the needed returns per $100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, $195; dairy cattle, $157; hogs, $127; and feeder cattle, $117.

Furthermore, in a comparison of crop yields for the various types of farming, the following items, which indicate that the grain and cattle farms were located on the better land, should be noted: (1) high value of land per acre; (2) large percent of land area tillable; and (3) large percent of land in grain.

Differences in expenses are highly significant for the six groups of farms. Labor input per 100 crop acres was highest on the dairy farms, where 20.1 months of labor were used, and lowest on the grain farms, where 9.4 months of labor were used. The dairy farmers evidently utilized a large amount of available labor to increase the size of their businesses without increasing the size of their farms.

The labor cost per crop acre ranged from $6.63 on the grain farms to $15.78 on the dairy farms; the horse and machinery cost per crop acre was highest on the dairy farms where it averaged $9.60 and lowest on the grain farms, where it averaged $6.73; and the buildings cost per acre was highest on the cattle farms but lowest on the grain farms.

Size of farm. When the farm records in Farming-Type Area 2 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment than did the smaller ones. The value of land per acre was about the same for the various size groups but the value of buildings and machinery per acre declined on the size of farm increased.

Gross earnings and expenses per farm increased as the size of farm increased but earnings and expenses per acre decreased as farms became larger. These figures and the value of feed fed per acre to productive livestock indicate that the small farms were operated more intensively than were the larger ones. The rate earned on investment was largest for the two size groups under 200 acres in size.

## TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 2, 1942

| Item | Total acres in farm | | | | | |
|---|---|---|---|---|---|---|
| | Less than 121 | 121 to 200 | 201 to 280 | 281 to 360 | 361 to 440 | 441 or more |
| Number of farms - - - - - - - - - - - | 87 | 211 | 107 | 45 | 18 | 1 |
| Acres per farm- - - - - - - - - - - - | 106 | 167 | 528 | 317 | 393 | 52 |
| **Investments** | | | | | | |
| Total per farm- - - - - - - - - - - | $19 166 | $29 567 | $41 388 | $51 019 | $65 801 | $83 38 |
| Total per acre- - - - - - - - - - - | 181 | 177 | 173 | 161 | 167 | 15 |
| Land per acre - - - - - - - - - - - | 88 | 90 | 90 | 88 | 89 | 8 |
| Land improvements per acre- - - - | 3.91 | 3.71 | 3.39 | 3.92 | 3.79 | 2.71 |
| Buildings per acre- - - - - - - - | 29.94 | 26.69 | 26.14 | 19.97 | 24.53 | 21.9 |
| Machinery per acre- - - - - - - - | 16.17 | 13.69 | 12.65 | 9.90 | 10.65 | 9.3 |
| **Earnings** | | | | | | |
| Per farm | | | | | | |
| Gross earnings- - - - - - - - - - | $ 6 252 | $ 8 884 | $11 125 | $12 716 | $16 476 | $20 22 |
| Gross expenses- - - - - - - - - - | 2 814 | 3 377 | 4 045 | 4 532 | 5 788 | 7 52 |
| Net earnings- - - - - - - - - - - | $ 3 438 | $ 5 507 | $ 7 080 | $ 8 184 | $10 688 | $12 69 |
| Per acre | | | | | | |
| Gross earnings- - - - - - - - - - | $ 58.96 | $ 53.20 | $ 46.39 | $ 40.90 | $ 41.90 | $ 38.28 |
| Gross expenses- - - - - - - - - - | 26.54 | 20.22 | 16.87 | 14.29 | 14.72 | 14.2 |
| Net earnings- - - - - - - - - - - | $ 32.42 | $ 32.98 | $ 29.52 | $ 25.80 | $ 27.18 | $ 24.0 |
| Rate earned on investment - - - - | 17.9% | 18.6% | 17.1% | 16.0% | 16.2% | 15.2 |
| Labor and management earnings - - | $ 3 271 | $ 4 822 | $ 5 822 | $ 6 422 | $ 8 203 | $ 9 355 |
| **Size and Intensity** | | | | | | |
| Percent of land area tillable - - | 86.3 | 83.7 | 82.0 | 78.6 | 76.7 | 80.4 |
| Percent tillable land in grain- - | 60.6 | 62.2 | 66.1 | 63.0 | 65.4 | 66.2 |
| Percent in hay and pasture- - - - | 37.5 | 35.5 | 31.1 | 34.3 | 31.0 | 30.8 |
| Feed fed per acre to prod. l.s. - | $ 30.13 | $ 27.64 | $ 23.68 | $ 22.97 | $ 21.73 | $ 18.75 |
| Percent of income from prod. l.s. | 92.6 | 92.8 | 88.6 | 93.0 | 84.8 | 79.7 |
| Percent of income from crops- - - | -- | -- | 4.8 | -- | 8.2 | 13.8 |
| Months of labor per 100 crop A. - | 22.1 | 18.4 | 14.6 | 12.9 | 12.2 | 11.1 |
| Total months of labor - - - - - - | 16.0 | 20.8 | 23.7 | 26.0 | 30.3 | 38.2 |
| Number of work horses - - - - - - | 2.3 | 2.9 | 2.8 | 3.2 | 3.2 | 4.5 |
| **Crop Yields per Acre** | | | | | | |
| Corn, bu. - - - - - - - - - - - - | 75.5 | 77.2 | 77.0 | 73.9 | 80.7 | 75.1 |
| Oats, bu. - - - - - - - - - - - - | 51.0 | 53.2 | 51.7 | 48.0 | 50.3 | 47.4 |
| **Livestock Returns** | | | | | | |
| Per $100 feed fed - - - - - - - - | $ 188 | $ 184 | $ 178 | $ 166 | $ 167 | $ 166 |
| Hog returns per litter- - - - - - | 230 | 223 | 228 | 227 | 239 | 224 |
| Dairy returns per cow - - - - - - | 135 | 138 | 142 | 133 | 184 | 154 |
| **Expense Factors** | | | | | | |
| Labor cost per crop acre- - - - - | $ 15.42 | $ 13.14 | $ 10.59 | $ 9.55 | $ 9.95 | $ 8.57 |
| Horse and machinery cost per crop acre - - - - - - - - - - - | 10.71 | 8.97 | 8.27 | 7.72 | 6.80 | 7.49 |
| Land improvements cost per acre - | .85 | .79 | .76 | .81 | .67 | .71 |
| Buildings cost per acre - - - - - | 2.34 | 1.72 | 1.82 | 1.21 | 1.77 | 1.79 |
| Land tax per acre - - - - - - - - | 1.29 | 1.24 | 1.16 | 1.09 | 1.16 | .99 |

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses. Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases, but decrease as the size of farm increases. Therefore the efficiency of a farm in using labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 2, 1942

| Acres per farm | Feed fed per acre | | | | Feed fed per acre | | | |
|---|---|---|---|---|---|---|---|---|
| | Less than $12.00 | $12.00 to $19.99 | $20.00 to $27.99 | $28.00 or more | Less than $12.00 | $12.00 to $19.99 | $20.00 to $27.99 | $28.00 or more |
| | (labor cost per crop acre) | | | | (horse and machinery cost per crop acre) | | | |
| Less than 121 | $13.10 | $13.65 | $15.49 | $16.34 | $9.50 | $9.65 | $10.01 | $11.56 |
| 121 to 200 | 11.96 | 12.90 | 13.53 | 16.05 | 8.20 | 8.80 | 9.15 | 9.48 |
| 201 to 280 | 9.20 | 10.26 | 10.69 | 11.52 | 7.35 | 8.10 | 8.21 | 9.28 |
| 281 to 360 | 9.09 | 9.48 | 9.80 | 10.20 | 7.10 | 7.86 | 7.92 | 8.21 |
| 361 to 440 | 8.00 | 9.30 | 9.80 | 10.00 | 6.55 | 6.70 | 7.14 | 7.56 |
| 441 or more | 7.00 | 8.50 | 8.85 | 9.20 | 6.19 | 7.29 | 7.74 | 7.80 |

## Producing for War Needs

In any given period gross receipts for cattle, dairy sales, hogs, eggs, and grain are relative measures of production (Table 7). Therefore the account keeper should use these standards to compare his own production with that of other account keepers. He should then adopt on his farm the kind of farm plan and the management practices that will make the best possible use of land, buildings, livestock, labor, machinery, and other resources for the duration of the war. Thus he will have more products to put on the nation's markets and will be making the greatest possible contribution to the war effort.

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 2, 1939-1942

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1942 | 1941 | 1940 | 1939 |
| Number of farms | -- | 484 | 516 | 456 | 45 |
| Capital Investments | | | | | |
| Land | $ | $18 418 | $18 461 | $19 572 | $19 27 |
| Land improvements | | 743 | ) | | |
| Farm buildings | | 5 231 | )5 939 | 5 829 | 5 67 |
| Horses | | 251 | 288 | 334 | 38 |
| Productive livestock: Cattle | | 3 354 | 3 091 | 2 847 | 2 29 |
| Hogs | | 1 274 | 781 | 721 | 82 |
| Sheep | | 138 | 162 | 150 | 12 |
| Poultry | | 137 | 107 | 100 | 10 |
| Total productive livestock | (   ) | ( 4 903) | ( 4 141) | ( 3 818) | ( 3 34 |
| Feed, grain, and seeds | | 3 300 | 2 583 | 2 738 | 2 29 |
| Machinery and equipment | | 2 276 | 2 103 | 2 099 | 2 03 |
| Automobile (farm share) | | 310 | 209 | 185 | 18 |
| Total | $ | $35 432 | $33 724 | $34 575 | $33 18 |
| Receipts and Net Increases | | | | | |
| Horses | $ | $ -- | $ -- | $ -- | $ - |
| Productive livestock: Cattle | | 2 561 | 2 144 | 1 993 | 1 48 |
| Dairy sales | | 1 424 | 1 202 | 822 | 66 |
| Hogs | | 4 379 | 2 802 | 1 444 | 1 20 |
| Sheep | | 106 | 108 | 86 | 8 |
| Poultry | | 134 | 116 | 68 | 5 |
| Egg sales | | 363 | 255 | 171 | 15 |
| Total productive livestock | (   ) | ( 8 967) | ( 6 627) | ( 4 584) | ( 3 64 |
| Farm products used in household | | 330 | 276 | 247 | 25 |
| Feed, grain, and seeds | | 110 | 503 | 32 | 49 |
| AAA receipts | | 326 | 391 | 399 | 57 |
| Labor off farm | | 27 | 31 | 38 | 3 |
| Miscellaneous | | 8 | 12 | 9 | 1 |
| Total | $ | $ 9 768 | $ 7 840 | $ 5 309 | $ 5 01 |
| Expenses and Net Decreases | | | | | |
| Land improvements | $ | $ 159 | $) 372 | $ 303 | $ 29 |
| Farm buildings | | 360 | ) | | |
| Horses | | 14 | 20 | 27 | 1 |
| Productive livestock | | -- | -- | -- | - |
| Feed, grain, and seeds | | -- | -- | -- | - |
| Machinery and equipment | | 867 | 635 | 536 | 50 |
| Automobile (farm share) | | 151 | 118 | 103 | 10 |
| Livestock expense | | 108 | 78 | 63 | 6 |
| Hired labor | | 549 | 417 | 367 | 36 |
| Taxes | | 280 | 281 | 277 | 26 |
| Miscellaneous | | 44 | 39 | 35 | 3 |
| Total | $ | $ 2 532 | $ 1 960 | $ 1 711 | $ 1 63 |
| Receipts less expenses | $ | $ 7 236 | $ 5 880 | $ 3 598 | $ 3 37 |
| Family labor | | 276 | 195 | 176 | 17 |
| Returns for labor, capital, mgt. | $ | $ 6 960 | $ 5 685 | $ 3 422 | $ 3 19 |
| Operator's labor | | 798 | 615 | 560 | 55 |
| Net earnings per farm | $ | $ 6 162 | $ 5 070 | $ 2 862 | $ 2 64 |
| Rate Earned on Investment | % | 17.4% | 15.0% | 8.3% | 8.0 |
| Interest on investment | $ | $ 1 772 | $ 1 686 | $ 1 789 | $ 1 66 |
| Labor and Management Earnings | | 5 188 | 3 999 | 1 693 | 1 53 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United States Department of Agriculture cooperating. H. P. RUSK, *Director.* Acts approved by Congress May 8 and June 30, 1914.

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# FARM BUSINESS REPORT . . . 1942

Beef cattle are adapted to the available land, labor, and equipment found on many farms. This is especially true when maximum use is made of roughages.

## FARMING-TYPE AREA FOUR
## East Central Cash Grain Area

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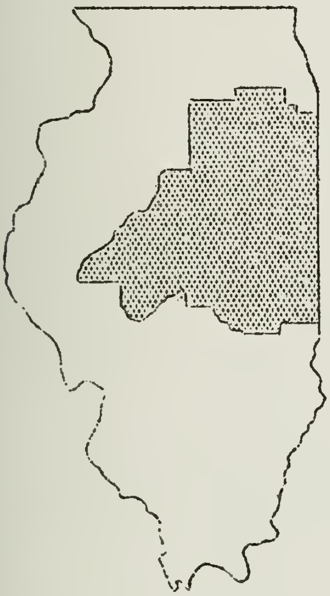
# Annual Farm Business Report

# ON SIX HUNDRED SIXTY-THREE FARMS IN FARMING-TYPE AREA 4, 1942

By P. E. Johnston, J. B. Cunningham, and W. N. Thompson[1]

War adjustments. Farm account cooperators in Farming-Type Area 4 responded to the war demand for increased production in 1942 over that of 1941 by increasing grain acreage and numbers of hens.

| Item | 1941 | 1942 | Change |
|---|---|---|---|
| Acres per farm | 265 | 259 | 6 acres decrease |
| Acres of grain crops | 168 | 173 | 5 acres (3%) increase |
| Number of dairy cows | 6 | 6 | None |
| Number of pigs weaned | 102 | 102 | None |
| Number of hens | 110 | 124 | 14 hens (13%) increase |
| Total months of labor | 22 | 22 | None |
| Value of machinery (beginning of year) | $2 327 | $2 576 | $249 increase |
| Tons of grain produced | 206 | 200 | 6 tons (3%) decrease |
| Measure of volume of production for livestock and livestock products[2] | $4 227 | $4 476 | $249 (6%) increase |



▨ Farming-Type Area 4
Cash grain

The cooperators kept the same number of cows, weaned the same number of pigs, and used the same amount of labor in 1942 as in 1941, but they increased their machinery investments.

The amount of grain produced per farm decreased from 206 tons in 1941 to 200 tons in 1942, a drop of only 6 tons or about 3 percent. This decrease was due to a reduction in production of wheat and oats which more than offset increases in the production of other grains.

Livestock production, as measured by receipts and net increases of livestock and livestock products valued at the same price in 1942 as in 1941, increased about 6 percent.

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[1] W. N. Thompson also supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm account project was conducted in cooperation with the county farm bureaus and was supervised by the following farm advisers: J. E. Harris, Champaign; H. D. Triplett, Ford; H. D. VanMatre, Iroquois; Edwin Bay, Sangamon; I. E. Parett, Vermilion; G. T. Swaim, Kankakee; L. W. Braham, Will; Paul M. Krows, Moultrie; J. R. Gilkey, Macon; R. V. Watson, Mason; N. H. Anderson, Logan; H. N. Myers, DeWitt; W. P. Miller, Kendall; L. W. Chalcraft, Menard; G. H. Husted, Cass; L. E. McKinzie, Edgar; J. Q. Scott, Douglas; E. O. Johnston, Piatt; and W. S. Myers, Coles.

[2] Receipts and net increases in 1942 were adjusted to the 1941 price level by dividing the 1942 receipts and net increases by the ratio of 1942 to 1941 Illinois farm price for each class of livestock or livestock product.

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 4, 1939-1942

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1942 | 1941 | 1940 | 1939 |
| Inventory Changes | | | | | |
| Land improvements | $ | $ 63 | $) 76 | $) 83 | $) 155 |
| Farm buildings | | 8 | ) | ) | ) |
| Horses | | -15 | -38 | -54 | -48 |
| Productive livestock | | 1067 | 835 | 324 | 207 |
| Feed, grain, and seeds | | 458 | 1416 | -104 | 994 |
| Machinery and equipment | | 190 | 261 | 104 | 99 |
| Automobile (farm share) | | -27 | 29 | 15 | 10 |
| Total | $ | $ 1744 | $ 2579 | $ 368 | $ 1417 |
| Cash Receipts | | | | | |
| Land improvements | $ | $ 1 | $) 9 | $) 17 | $) 13 |
| Farm buildings | | 15 | ) | ) | ) |
| Horses | | 47 | 40 | 47 | 62 |
| Productive livestock: Cattle | | 2258 | 1762 | 1624 | 1382 |
| Dairy sales | | 700 | 553 | 418 | 367 |
| Hogs | | 2826 | 1701 | 1012 | 945 |
| Sheep | | 159 | 128 | 88 | 118 |
| Poultry | | 194 | 149 | 111 | 102 |
| Egg sales | | 331 | 225 | 156 | 130 |
| Total productive livestock | ( ) | (6468) | (4518) | (3409) | (3044) |
| Feed, grain, and seeds | | 4622 | 3571 | 2801 | 2466 |
| Machinery and equipment | | 285 | 311 | 291 | 280 |
| Automobile (farm share) | | 17 | 61 | 52 | 38 |
| AAA receipts | | 523 | 525 | 577 | 679 |
| Labor off farm | | 35 | 39 | 40 | 50 |
| Miscellaneous | | 6 | 10 | 9 | 11 |
| Total | $ | $12019 | $ 9084 | $ 7243 | $ 6643 |
| Cash Expenses | | | | | |
| Land improvements | $ | $ 218 | $) 398 | $) 383 | $) 421 |
| Farm buildings | | 321 | ) | ) | ) |
| Horses | | 34 | 22 | 22 | 33 |
| Productive livestock: Cattle | | 1297 | 890 | 873 | 782 |
| Hogs | | 223 | 129 | 87 | 115 |
| Sheep | | 59 | 68 | 56 | 64 |
| Poultry | | 53 | 39 | 30 | 30 |
| Total productive livestock | ( ) | (1632) | (1126) | (1046) | ( 991) |
| Feed and grain purchases | | 1173 | 804 | 530 | 535 |
| Crop and sealing expense | | 272 | 175 | 172 | 153 |
| Machinery and equipment | | 1574 | 1402 | 1122 | 1042 |
| Automobile (farm share) | | 151 | 227 | 189 | 164 |
| Livestock expense | | 91 | 65 | 52 | 56 |
| Hired labor | | 584 | 486 | 436 | 432 |
| Taxes | | 395 | 398 | 397 | 373 |
| Miscellaneous | | 43 | 34 | 30 | 29 |
| Total | $ | $ 6488 | $ 5137 | $ 4379 | $ 4229 |
| Summary | | | | | |
| Total inventory change | $ | $ 1744 | $ 2579 | $ 368 | $ 1417 |
| Cash balance | | 5531 | 3947 | 2864 | 2414 |
| Farm products used in household | | 325 | 273 | 225 | 235 |
| Receipts less expenses | $ | $ 7600 | $ 6799 | $ 3457 | $ 4066 |
| Total unpaid labor | | 1023 | 785 | 696 | 695 |
| Net earnings per farm | $ | $ 6577 | $ 6014 | $ 2761 | $ 3371 |
| Net earnings per acre | $ | $25.39 | $22.69 | $10.19 | $12.60 |

Net earnings. The net earnings per farm on an inventory basis were higher in 1942 than in 1941; the average was $6,577 in 1942 compared with $6,014 in 1941. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding to the cash balance the value of farm products used in the household and the inventory increases and by subtracting from the resulting total the value of unpaid labor. Therefore this figure indicates the earning power of the business and determines the real value of the farm and its equipment. The average net earnings per acre were $25.39 in 1942, $22.69 in 1941, $10.19 in 1940, and $12.60 in 1939.

Inventory changes. The year 1942 was the tenth consecutive year in which inventories increased. The largest increase during the past four years was $2,579 in 1941, and the smallest was $368 in 1940 (Table 1). In 1941 the largest increases were for livestock and feed, grain, and seeds. The average amounts of grain on hand in Area 4 at the two inventory periods were:

| Crop | Beginning of year (bushels) | End of year (bushels) |
|---|---|---|
| Corn | 4078 | 4104 |
| Oats | 982 | 878 |
| Wheat | 164 | 67 |
| Soybeans | 337 | 356 |

Cash receipts and cash expenses. In 1942 cash receipts exceeded cash expenses by $5,531, the largest margin for any year during the past four. The cash balance--the difference between cash receipts and expenses--is the amount of money which was available for family living expenses, interest, debt payments, and savings.

Unpaid family labor. Although there was no appreciable change in the amount of family labor available, the total valuation of unpaid labor was higher for 1942 than for any other year in the past four. This increase resulted from the fact that the physical labor of the operator and other members of the family was valued at $70 per month in 1942, at $55 per month in 1941, and at $50 per month in each of the two previous years.

Variation in farm earnings. A wide variation was found in earnings on the farms in Area 4. For example, 114 farms earned less than 10 percent on their investment, with an average rate earned of 7.6 percent; but 65 farms earned 22 percent or more, with an average rate earned of 24.6 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had $1,777 for labor and management earnings contrasted with $8,604 for the latter group. The variation in earnings and in size of farm for all the records in the area was as follows:

| Rate earned on investment (percent) | Number of farms | Average rate earned (percent) | Acres per farm | Capital invested per farm | Gross earnings per farm | Net earnings per farm | Labor and management earnings |
|---|---|---|---|---|---|---|---|
| Less than 10.00 | 114 | 7.6 | 232 | $40 035 | $ 7 023 | $3 025 | $1 777 |
| 10.00 to 13.99 | 191 | 12.3 | 247 | 42 413 | 9 289 | 5 220 | 3 855 |
| 14.00 to 17.99 | 176 | 15.8 | 288 | 49 409 | 12 147 | 7 800 | 6 117 |
| 18.00 to 21.99 | 117 | 19.7 | 261 | 43 860 | 12 777 | 8 633 | 7 206 |
| 22.00 or more | 65 | 24.6 | 258 | 39 733 | 14 169 | 9 785 | 8 604 |

## TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 4, 1942

| Item | Your farm | Standards for your farm | Average of all farms |
|---|---|---|---|
| Rate earned on investment | % | 15.0% | 15.0% |
| Number of farms | -- | -- | 663 |
| Acres in farm |  | 259 | 259 |
| Acres tillable |  | 233 | 233 |
| Acres in crops |  | 198 | 198 |
| Gross earnings per acre | $ | $ a/ | $ 40.26 |
| Gross expenses per acre |  |  | 14.87 |
| Net earnings per acre |  |  | 25.39 |
| **Investments** |  |  |  |
| Value of land per acre | $ | $ 110 | $ 110 |
| Value of improved land per acre |  | a/ | 114 |
| Value of buildings per acre |  | e/ | 16 |
| Total investment per acre |  | 169 | 169 |
| **Land Use** |  |  |  |
| Percent of land area tillable |  | a/ | 90.0 |
| Percent of tillable land in: |  |  |  |
| Corn |  |  | 32.9 |
| Oats |  |  | 14.4 |
| Wheat |  |  | 3.8 |
| Soybeans |  |  | 23.3 |
| Other crops |  |  | 2.7 |
| Legume hay and pasture |  |  | 15.3 |
| Nonlegume hay and pasture |  |  | 7.6 |
| **Crop Yields** |  |  |  |
| Corn, bu. |  | b/ | 64.5 |
| Oats, bu. |  |  | 42.2 |
| Wheat, bu. |  | 13.8 | 13.8 |
| Soybeans, bu. |  | b/ | 22.7 |
| **Livestock Factors** |  |  |  |
| Value of feed fed to prod. l.s. | $ | $3 456 | $3 456 |
| Feed fed per acre to prod. l.s. |  | c/ | 13.34 |
| Returns per $100 worth of feed fed |  |  | 178 |
| Poultry returns per hen |  | 4.57 | 4.57 |
| Number of litters farrowed |  | 16.4 | 16.4 |
| Number of pigs weaned per litter |  | 6.2 | 6.2 |
| Returns per litter farrowed | $ | $ 206 | $ 206 |
| Average number of cows milked |  | 6.1 | 6.1 |
| Dairy returns per cow milked | $ | $ c/ | $ 130 |
| **Expense Factors** |  |  |  |
| Horse and machinery cost per crop acre | $ | $ d/ | $ 7.01 |
| Labor cost per crop acre |  |  | 7.96 |
| Total months of labor |  | e/ | 22.3 |
| Number of work horses |  |  | 2.7 |
| Land improvements cost per acre | $ | $ .59 | .59 |
| Buildings cost per acre |  | e/ | 1.15 |
| Land tax per acre |  | a/ | 1.37 |

Source of Standards:

a/ Table 3, value of improved land.
b/ Fig. 1, value of improved land.
c/ Table 4, source of income.
d/ Table 6, size of farm and value of feed fed per acre.
e/ Table 5, size of farm.

# CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

## Accounting Farms in Farming-Type Area 4, 1942

The numbers above the double lines are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

| | | | Factors that affect the gross earnings | | | | | | | | | | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Crop yields | | | | | | | | | | | |
| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Percent of tillable land in legume hay and pasture | Corn, bu. | Oats, bu. | Soybeans, bu. | Feed fed per acre to prod. l.s. | Returns per $100 feed fed | Poultry returns per hen | Hog returns per litter farrowed | Dairy returns per cow milked | Gross expenses per acre | Horse and machinery cost per crop acre | Labor cost per crop acre | Buildings cost per acre |
| 25.0 | 509 | | | | | | | | 7.07 | 281 | | | | | |
| 23.0 | 459 | | | | | | | | 6.57 | 266 | | | | | |
| 21.0 | 409 | | | | | | | | 6.07 | 251 | | | | | |
| 19.0 | 359 | | | | | | | | 5.57 | 236 | | | | | |
| 17.0 | 309 | | | | | | | | 5.07 | 221 | | | | | |
| 15.0 | 259 | | | | | | | | 4.57 | 206 | | | | | |
| 13.0 | 209 | | | | | | | | 4.07 | 191 | | | | | |
| 11.0 | 159 | | | | | | | | 3.57 | 176 | | | | | |
| 9.0 | 109 | | | | | | | | 3.07 | 161 | | | | | |
| 7.0 | 59 | | | | | | | | 2.57 | 146 | | | | | |
| 5.0 | -- | | | | | | | | 2.07 | 131 | | | | | |
| * 2% | 50 | $4 | 2% | 5 | 5 | 3 | $2 | $15 | $.50 | $15 | $10 | $2 | $1 | $1 | $.30 |

* Each space between lines represents the values indicated at bottom of each column.

### TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS RELATED TO THE VALUE OF IMPROVED LAND

Accounting Farms in Farming-Type Area 4, 1942

| Item | Value of Improved Land | | | | | |
|---|---|---|---|---|---|---|
| | Less than $53 | $53 to $72 | $73 to $92 | $93 to $112 | $113 to $132 | More than $132 |
| Average value of improved land- - - | $41 | $66 | $83 | $102 | $123 | $147 |
| Number of farms - - - - - - - - - - - | 25 | 42 | 71 | 159 | 203 | 163 |
| Acres per farm- - - - - - - - - - - - | 290 | 275 | 269 | 250 | 256 | 258 |
| Percent of land area tillable - - - | 79.6 | 79.5 | 84.9 | 89.0 | 92.6 | 94.5 |
| Percent of tillable land in: | | | | | | |
| Corn- - - - - - - - - - - - - - - - - | 27.4 | 29.1 | 32.2 | 33.6 | 34.1 | 33.1 |
| Oats- - - - - - - - - - - - - - - - - | 9.2 | 15.4 | 14.9 | 15.6 | 14.8 | 13.4 |
| Wheat - - - - - - - - - - - - - - - - | 12.7 | 7.4 | 4.8 | 3.1 | 3.1 | 2.6 |
| Soybeans- - - - - - - - - - - - - - - | 9.8 | 15.8 | 19.0 | 22.8 | 23.2 | 29.4 |
| Other crops - - - - - - - - - - - - - | 15.0 | 5.7 | 2.2 | 2.4 | 1.4 | 1.8 |
| Legume hay and pasture- - - - - - | 17.2 | 18.0 | 17.0 | 15.1 | 15.9 | 13.4 |
| Nonlegume hay and pasture - - - - | 8.7 | 8.6 | 9.9 | 7.4 | 7.5 | 6.3 |
| Gross earnings per acre - - - - - - | $19.57 | $30.25 | $34.77 | $38.95 | $45.01 | $44.46 |
| Gross expenses per acre - - - - - - | 9.07 | 12.98 | 14.40 | 14.74 | 15.97 | 15.37 |
| Net earnings per acre - - - - - - - | $10.50 | $17.27 | $20.37 | $24.21 | $29.04 | $29.09 |
| Land tax per acre - - - - - - - - - - | $ .89 | $ .96 | $ 1.21 | $ 1.32 | $ 1.46 | $ 1.57 |

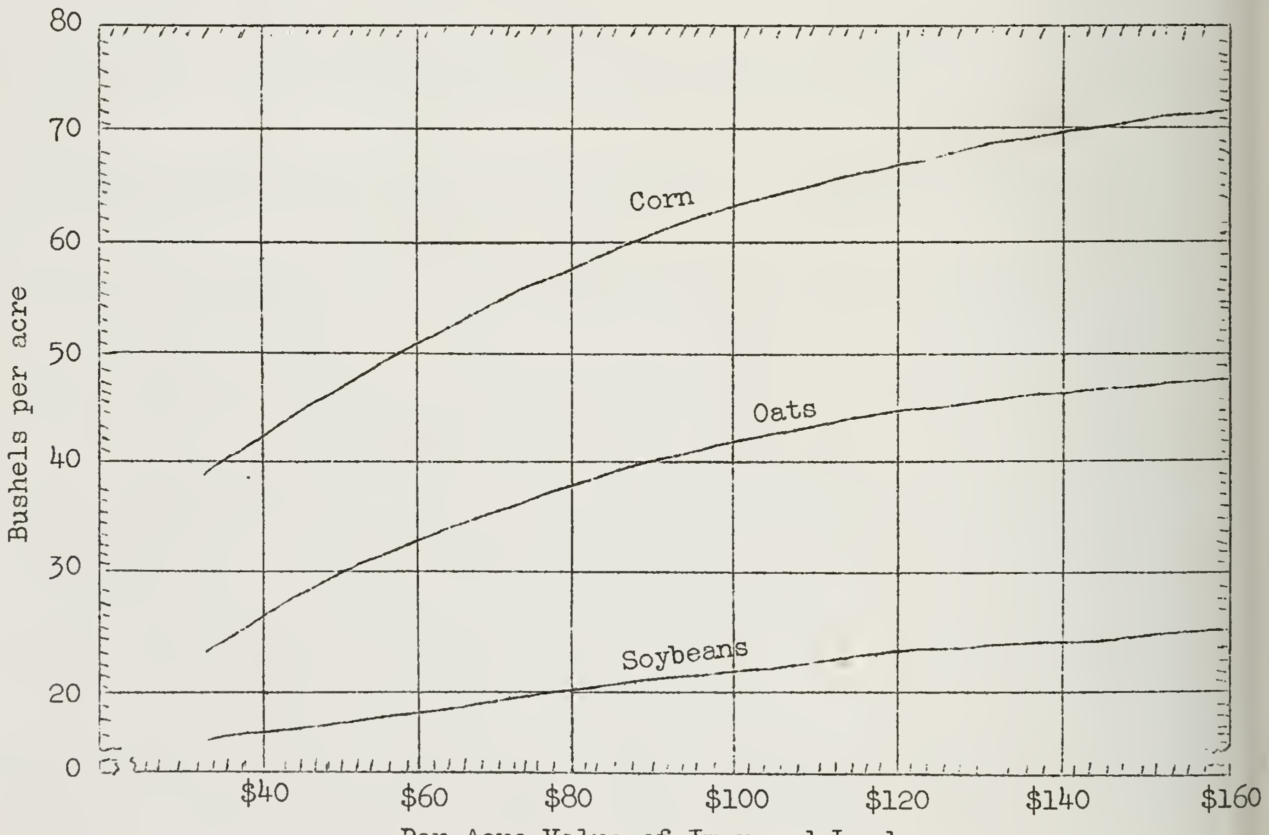

Fig. 1.--Average yields of corn, oats, and soybeans with varying values of improved land.

## Explanation of Tables

Variable standards are used in the analysis of the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per $100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farms" (Table 2) are taken from Tables 3 to 6 and from Figure 1 as follows:

| | |
|---|---|
| Table 3 | - Value of improved land.<br>Gross earnings, gross expenses, and net earnings per acre.<br>Value of improved land per acre.<br>All items in the land-use section.<br>Land tax per acre. |
| Figure 1 | - Value of improved land.<br>Yields for corn, oats, and soybeans. |
| Table 4 | - Source of income.<br>Feed fed per acre to productive livestock.<br>Returns per $100 worth of feed fed.<br>Dairy returns per cow. |
| Table 5 | - Size of farm.<br>Value of improvements per acre.<br>Total months of labor.<br>Number of work horses.<br>Buildings cost per acre. |
| Table 6 | - Size of farm and amount of feed fed per acre.<br>Horse and machinery cost per crop acre.<br>Labor cost per crop acre. |

The terms used in the tables are the same as the terms used in the Illinois farm account book. For example, "improved land" is classified on Page 1 of the farm account book. It means cropland, tillable pasture, and land occupied by farmstead, roads, and lanes. Likewise, "crop acres" are listed on Page 20 of the farm account book. They include all the tillable land on which a large amount of work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields. The percent of tillable land in grain crops increased as the value per acre of improved land increased from an average of $41 to $147 (Table 3). Likewise the percent of land area tillable, the net earnings per acre, and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture was higher on farms with low valued land than on farms with high valued land.

Yields per acre for corn, oats, and soybeans increased as the land value increased (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, his crop yields, and his net earnings per acre were high or low for 1942 in comparison with the average of other farms in his area having about the same value of improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 4, 1942

| Item | Source of income | | | | | |
|---|---|---|---|---|---|---|
| | Grain 40% + | Dairy sales 40% + | Hogs 40% + | Cattle 40% + | General farms L.S. 60%- | L.S. 60% + |
| Number of farms | 322 | 22 | 151 | 20 | 62 | 8 |
| Percent of income from prod. l.s. | 32.4 | 79.2 | 87.2 | 93.6 | 54.2 | 75. |
| Percent of income from crops | 59.0 | 10.3 | 5.0 | -- | 34.9 | 16. |
| **Investments** | | | | | | |
| Total per farm | $46 177 | $28 696 | $41 490 | $73 917 | $41 261 | $38 06 |
| Total per acre | 169 | 179 | 165 | 207 | 164 | 17 |
| Land per acre | 116 | 98 | 99 | 116 | 107 | 10 |
| Land improvements per acre | 2.47 | 2.51 | 3.46 | 3.53 | 2.40 | 3.0 |
| Buildings per acre | 13.65 | 27.45 | 16.70 | 19.62 | 14.77 | 19.6 |
| Machinery per acre | 10.82 | 14.31 | 10.97 | 11.69 | 11.34 | 11.6 |
| **Earnings** | | | | | | |
| Per farm | | | | | | |
| Gross earnings | $10 511 | $ 6 618 | $11 043 | $17 255 | $ 9 664 | $ 9 27 |
| Gross expenses | 3 745 | 3 350 | 4 037 | 6 888 | 3 636 | 3 79 |
| Net earnings | $ 6 766 | $ 3 268 | $ 7 006 | $10 367 | $ 6 028 | $ 5 48 |
| Per acre | | | | | | |
| Gross earnings | $ 38.38 | $ 41.36 | $ 43.81 | $ 48.39 | $ 38.44 | $ 41.5 |
| Gross expenses | 13.68 | 20.93 | 16.01 | 19.32 | 14.46 | 16.9 |
| Net earnings | $ 24.70 | $ 20.43 | $ 27.80 | $ 29.07 | $ 23.98 | $ 24.51 |
| Rate earned on investment | 14.7% | 11.4% | 16.9% | 14.0% | 14.6% | 14.4 |
| Labor and management earnings | $ 5 226 | $ 2 626 | $ 5 699 | $ 7 412 | $ 4 774 | $ 4 33 |
| **Size and Intensity** | | | | | | |
| Acres per farm | 274 | 160 | 252 | 357 | 251 | 22 |
| Percent of land area tillable | 91.8 | 88.8 | 87.1 | 88.9 | 88.2 | 89. |
| Percent tillable land in grain | 79.2 | 64.6 | 70.2 | 69.2 | 71.8 | 70. |
| Percent in hay and pasture | 18.7 | 32.3 | 27.8 | 27.5 | 26.2 | 27. |
| Feed fed per acre to prod. l.s. | $ 7.15 | $ 18.28 | $ 21.83 | $ 33.04 | $ 11.66 | $ 18.1 |
| Months of labor per 100 crop A. | 9.6 | 19.4 | 13.3 | 11.3 | 11.7 | 13. |
| Total months of labor | 21.2 | 22.4 | 23.6 | 29.2 | 21.5 | 22. |
| **Crop Yields Per Acre** | | | | | | |
| Corn, bu. | 64.3 | 57.4 | 64.9 | 72.9 | 62.9 | 64. |
| Soybeans, bu. | 23.7 | 16.9 | 21.3 | 19.2 | 24.4 | 19. |
| **Livestock Returns** | | | | | | |
| Per $100 feed fed | $ 187 | $ 186 | $ 180 | $ 139 | $ 188 | $ 17 |
| Hog returns per litter | 198 | 224 | 210 | 173 | 213 | 20 |
| Dairy returns per cow | 109 | 203 | 121 | 78 | 136 | 14 |
| **Expense Factors** | | | | | | |
| Labor cost per crop acre | $ 6.74 | $ 12.57 | $ 9.49 | $ 8.70 | $ 8.20 | $ 9.91 |
| Horse and machinery cost per crop acre | 6.31 | 10.60 | 7.99 | 7.85 | 6.90 | 7.8 |
| Land improvements cost per acre | .55 | .77 | .65 | .71 | .55 | .6 |
| Buildings cost per acre | .95 | 1.59 | 1.36 | 1.52 | 1.24 | 1.5 |
| Land tax per acre | 1.44 | 1.21 | 1.29 | 1.28 | 1.34 | 1.3 |

Source of income. The grouping of accounting farms according to source of income for 1942 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer should, however, use caution in interpreting the data in Table 4. For example, the fact that hog farms showed the largest rate earned on the investment for 1942 and that dairy farms showed the smallest does not mean that such a relationship will prevail over a long period of years. The relative profitableness of these enterprises in 1942 was due largely to conditions affecting price and production.

In comparing the returns on the various groups of farms per $100 worth of feed fed, one should consider the fact that there is a wide variation in the necessary returns per $100 worth of feed fed which is necessary to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, $195; dairy cattle, $157; hogs, $127; and feeder cattle, $117.

Furthermore, in a comparison of crop yields for the various types of farming, the following items, which indicate that the grain farms were located on the better land, should be noted: (1) high value of land per acre; (2) large percent of land area tillable; (3) large percent of land in grain; and (4) high land tax per acre.

Differences in expenses are highly significant for the six groups of farms. Labor input per 100 crop acres was highest on the dairy farms, where 19.4 months of labor were used, and lowest on the grain farms, where 9.6 months of labor were used. The dairy farmers evidently utilized a large amount of available labor to increase the size of their businesses without increasing the size of their farms.

The labor cost per crop acre ranged from $6.74 on the grain farms to $12.57 on the dairy farms; the horse and machinery cost per crop acre was highest on the dairy farms where it averaged $10.60 and lowest on the grain farms, where it averaged $6.31; and the buildings cost per acre averaged $1.59 on the dairy farms and $.95 on the grain farms.

Size of farm, When the farm records in Farming-Type Area 4 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on the smaller ones; and, after deductions were made for farm business expenditures and interest on the investment, the 53 largest farms had labor and management earnings which averaged $10,650 contrasted with $2,387 for the 59 smallest farms. The rate earned on investment was smallest on the two groups of farms under 200 acres in size, and did not differ significantly for the other size groups.

The smaller farms were operated more intensively than were the larger ones. This variation was indicated by the higher gross earnings per acre, by the larger labor and capital input per acre, and by the higher value of feed fed per acre to productive livestock.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 4, 1942

| Item | Total acres in farm | | | | | |
|---|---|---|---|---|---|---|
| | Less than 121 | 121 to 200 | 201 to 280 | 281 to 360 | 361 to 440 | 441 or more |
| Number of farms | 59 | 204 | 185 | 120 | 42 | 53 |
| Acres per farm | 104 | 167 | 243 | 320 | 398 | 595 |
| Investments | | | | | | |
| Total per farm | $19 316 | $29 977 | $42 451 | $51 988 | $66 798 | $92 881 |
| Total per acre | 186 | 180 | 175 | 163 | 168 | 156 |
| Land per acre | 110 | 113 | 114 | 108 | 112 | 102 |
| Land improvements per acre | 3.98 | 3.18 | 2.85 | 2.33 | 2.56 | 2.77 |
| Buildings per acre | 22.49 | 19.03 | 16.68 | 14.18 | 12.28 | 12.67 |
| Machinery per acre | 14.60 | 12.94 | 11.91 | 10.14 | 10.36 | 8.86 |
| Earnings | | | | | | |
| Per farm | | | | | | |
| Gross earnings | $ 4 843 | $ 7 119 | $10 305 | $12 185 | $15 752 | $21 638 |
| Gross expenses | 2 236 | 2 931 | 3 777 | 4 320 | 5 433 | 7 154 |
| Net earnings | $ 2 607 | $ 4 188 | $ 6 528 | $ 7 865 | $10 319 | $14 484 |
| Per acre | | | | | | |
| Gross earnings | $ 46.69 | $ 42.64 | $ 42.47 | $ 38.10 | $ 39.57 | $ 36.35 |
| Gross expenses | 21.55 | 17.55 | 15.57 | 13.51 | 13.65 | 12.02 |
| Net earnings | $ 25.14 | $ 25.09 | $ 26.90 | $ 24.59 | $ 25.92 | $ 24.33 |
| Rate earned on investment | 13.5% | 14.0% | 15.4% | 15.1% | 15.4% | 15.6% |
| Labor and management earnings | $ 2 387 | $ 3 464 | $ 5 176 | $ 6 019 | $ 7 766 | $10 650 |
| Size and Intensity | | | | | | |
| Percent of land area tillable | 92.1 | 91.7 | 92.0 | 88.5 | 89.1 | 86.9 |
| Percent tillable land in grain | 69.6 | 74.2 | 76.3 | 74.7 | 77.1 | 73.6 |
| Percent in hay and pasture | 27.1 | 24.0 | 21.6 | 23.1 | 19.5 | 24.2 |
| Feed fed per acre to prod. l.s. | $ 19.82 | $ 14.33 | $ 13.52 | $ 12.00 | $ 13.11 | $ 12.53 |
| Percent of income from prod.l.s | 74.6 | 59.2 | 55.3 | 53.9 | 54.4 | 55.6 |
| Percent of income from crops | 14.3 | 31.2 | 36.0 | 38.1 | 37.9 | 36.9 |
| Months of labor per 100 crop A. | 19.9 | 13.9 | 11.2 | 10.2 | 9.8 | 8.7 |
| Total months of labor | 15.6 | 18.0 | 21.5 | 24.7 | 30.1 | 37.2 |
| Number of work horses | 2.0 | 2.2 | 2.7 | 2.9 | 3.4 | 3.9 |
| Crop Yields per Acre | | | | | | |
| Corn, bu. | 66.7 | 65.0 | 64.5 | 64.0 | 64.4 | 64.3 |
| Soybeans, bu. | 18.8 | 21.8 | 23.4 | 22.9 | 23.9 | 22.3 |
| Livestock Returns | | | | | | |
| Per $100 feed fed | $ 186 | $ 186 | $ 182 | $ 179 | $ 170 | $ 166 |
| Hog returns per litter | 187 | 201 | 211 | 205 | 209 | 212 |
| Dairy returns per cow | 133 | 140 | 132 | 119 | 117 | 105 |
| Expense Factors | | | | | | |
| Labor cost per crop acre | $ 13.65 | $ 9.62 | $ 7.93 | $ 7.12 | $ 7.30 | $ 6.32 |
| Horse and machinery cost per crop acre | 8.92 | 7.89 | 7.27 | 6.54 | 6.54 | 6.06 |
| Land improvements cost per acre | .76 | .63 | .56 | .64 | .51 | .58 |
| Buildings cost per acre | 1.70 | 1.38 | 1.21 | 1.04 | 1.00 | 1.03 |
| Land tax per acre | 1.44 | 1.41 | 1.41 | 1.36 | 1.33 | 1.28 |

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses. Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases, but decrease as the size of farm increases. Therefore the efficiency of a farm in the use of labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 4, 1942

| Acres per varm | Feed fed per acre | | | | Feed fed per acre | | | |
|---|---|---|---|---|---|---|---|---|
| | Less than $6.00 | $6.00 to $11.99 | $12.00 to $17.99 | $18.00 or more | Less than $6.00 | $6.00 to $11.99 | $12.00 to $17.99 | $18.00 or more |
| | (labor cost per crop acre) | | | | (horse and machinery cost per crop acre) | | | |
| Less than 121 | $11.40 | $13.63 | $14.46 | $16.19 | $7.00 | $7.90 | $9.13 | $9.50 |
| 121 to 200 | 7.78 | 8.76 | 9.87 | 12.07 | 6.18 | 6.73 | 8.40 | 9.30 |
| 201 to 280 | 6.15 | 7.19 | 8.98 | 10.23 | 5.80 | 6.56 | 8.05 | 9.14 |
| 281 to 360 | 6.00 | 6.61 | 8.08 | 8.27 | 5.60 | 6.30 | 6.79 | 7.64 |
| 361 to 440 | 5.50 | 6.51 | 8.10 | 8.40 | 5.50 | 6.00 | 6.70 | 7.07 |
| 441 or more | 4.60 | 5.84 | 7.30 | 8.00 | 5.19 | 5.59 | 6.61 | 6.80 |

## Producing for War Needs

In any given period gross receipts for hogs, cattle, dairy sales, eggs, and grain are relative measures of production (Table 7). Therefore the account keeper should use these standards to compare his own production with that of other account keepers. He should then adopt on his farm the kind of farm plan and the management practices that will make the best possible use of land, buildings, livestock, labor, machinery, and other resources for the duration of the war. Thus he will have more products to put on the nation's markets and so will be making the greatest possible contribution to the war effort.

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 4, 1939-1942

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1942 | 1941 | 1940 | 1939 |
| Number of farms | -- | 663 | 703 | 582 | 559 |
| Capital Investments | | | | | |
| Land- - - - - - - - - - - - - - - - | $ | $28 442 | $28 998 | $29 028 | $28 902 |
| Land improvements - - - - - - - - | | 725 | 4 334 | 4 353 | 4 122 |
| Farm buildings- - - - - - - - - - | | 4 048 | | | |
| Horses- - - - - - - - - - - - - - - | | 222 | 268 | 345 | 413 |
| Productive livestock: Cattle- - - | | 2 012 | 1 704 | 1 561 | 1 323 |
| Hogs- - - - | | 823 | 478 | 463 | 469 |
| Sheep - - - | | 123 | 92 | 77 | 104 |
| Poultry - - | | 137 | 104 | 99 | 101 |
| Total productive livestock- - - - | ( ) | (3 095) | (2 378) | (2 200) | (1 997) |
| Feed, grain, and seeds- - - - - - | | 4 446 | 3 334 | 3 776 | 2 963 |
| Machinery and equipment - - - - - | | 2 576 | 2 327 | 2 249 | 2 172 |
| Automobile (farm share) - - - - - | | 300 | 226 | 205 | 194 |
| Total - - - - - - - - - - - - - - | $ | $43 854 | $41 865 | $42 156 | $40 763 |
| Receipts and Net Increases | | | | | |
| Horses- - - - - - - - - - - - - - - | $ | $ -- | $ -- | $ -- | $ -- |
| Productive livestock: Cattle- - - | | 1 583 | 1 263 | 1 019 | 840 |
| Dairy sales | | 700 | 553 | 418 | 367 |
| Hogs- - - - | | 3 036 | 1 961 | 948 | 807 |
| Sheep - - - | | 83 | 87 | 61 | 48 |
| Poultry - - | | 170 | 138 | 85 | 68 |
| Egg sales - | | 331 | 225 | 156 | 130 |
| Total productive livestock- - - - | ( ) | (5 903) | (4 227) | (2 687) | (2 260) |
| Farm products used in household - | | 325 | 273 | 225 | 235 |
| Feed, grain, and seeds- - - - - - | | 3 635 | 4 008 | 1 995 | 2 772 |
| AAA receipts- - - - - - - - - - - | | 523 | 525 | 577 | 679 |
| Labor off farm- - - - - - - - - - | | 35 | 39 | 40 | 50 |
| Miscellaneous - - - - - - - - - - | | 6 | 10 | 9 | 11 |
| Total - - - - - - - - - - - - - - | $ | $10 427 | $ 9 082 | $ 5 533 | $ 6 007 |
| Expenses and Net Decreases | | | | | |
| Land improvements - - - - - - - - | $ | $ 154 | $ 313 | $ 283 | $ 253 |
| Farm buildings- - - - - - - - - - | | 298 | | | |
| Horses- - - - - - - - - - - - - - - | | 2 | 20 | 29 | 19 |
| Productive livestock- - - - - - - | | -- | -- | -- | -- |
| Feed, grain, and seeds- - - - - - | | -- | -- | -- | -- |
| Machinery and equipment - - - - - | | 1 099 | 830 | 727 | 663 |
| Automobile (farm share) - - - - - | | 161 | 137 | 122 | 116 |
| Livestock expense - - - - - - - - | | 91 | 65 | 52 | 56 |
| Hired labor - - - - - - - - - - - | | 584 | 486 | 436 | 432 |
| Taxes - - - - - - - - - - - - - - | | 395 | 398 | 397 | 373 |
| Miscellaneous - - - - - - - - - - | | 43 | 34 | 30 | 29 |
| Total - - - - - - - - - - - - - - | $ | $ 2 827 | $ 2 283 | $ 2 076 | $ 1 941 |
| Receipts less expenses- - - - - - | $ | $ 7 600 | $ 6 799 | $ 3 457 | $ 4 066 |
| Family labor- - - - - - - - - - - | | 252 | 189 | 153 | 164 |
| Returns for labor, capital, mgt. | $ | $ 7 348 | $ 6 610 | $ 3 304 | $ 3 902 |
| Operator's labor- - - - - - - - - | | 771 | 596 | 543 | 531 |
| Net earnings per farm - - - - - | $ | $ 6 577 | $ 6 014 | $ 2 761 | $ 3 371 |
| Rate Earned on Investment - - - - - | % | 15.0% | 14.4% | 6.5% | 8.3% |
| Interest on investment- - - - - - | $ | $ 2 193 | $ 2 093 | $ 2 108 | $ 2 039 |
| Labor and Management Earnings - - - | | 5 155 | 4 517 | 1 196 | 1 863 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United States Department of Agriculture cooperating. H. P. Rusk, *Director*. Acts approved by Congress May 8 and June 30, 1914.

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# FARM BUSINESS REPORT . . . 1942

Beef cattle are adapted to the available land, labor, and equipment found on many farms. This is especially true when maximum use is made of roughages.

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## FARMING-TYPE AREA FIVE
## West Central General Farming Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

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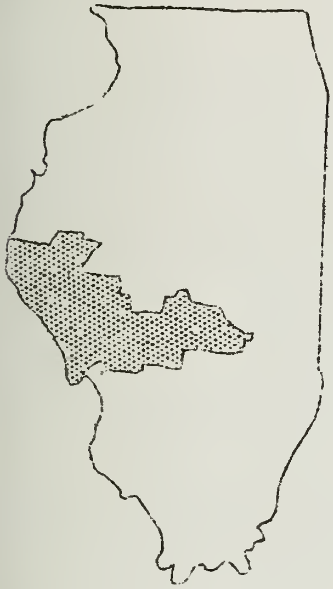
## Annual Farm Business Report

# ON THREE HUNDRED FIFTY-TWO FARMS IN FARMING-TYPE AREA 5, 1942

By P. E. Johnston, J. B. Cunningham, and F. J. Reiss[1]

War adjustments. Farm account cooperators in Farming-Type Area 5 responded to the war demand for increased production in 1942 over that in 1941 by increasing grain acreage, number of pigs weaned, and number of hens.

| Item | 1941 | 1942 | Change |
|---|---|---|---|
| Acres per farm | 250 | 251 | 1 acre increase |
| Acres of grain crops | 120 | 123 | 3 acres increase |
| Number of dairy cows | 7 | 7 | None |
| Number of pigs weaned | 125 | 137 | 12 pigs increase |
| Number of hens | 101 | 112 | 11 hens increase |
| Total months of labor | 23 | 23 | None |
| Value of machinery (beginning of year) | $1 812 | $2 068 | $256 increase |
| Tons of grain produced | 136 | 120 | 16 tons decrease |
| Measure of volume of production for livestock and livestock products[2] | $5 256 | $5 372 | $116 increase |



▨ Farming-Type Area 5
General Farming

The cooperators kept the same number of dairy cows in 1942 as in 1941, used the same amount of labor, but increased machinery investments.

Total grain produced per farm decreased from 136 tons in 1941 to 120 tons in 1942. This decrease was due in part to a reduction in acreage and yield of wheat. Livestock production, as measured by receipts and net increases for livestock and livestock products, which are valued at the same price for 1942 as for 1941, failed to keep pace with increases in numbers of pigs and hens.

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[1] W. N. Thompson supervised the closing of the farm accounts and the preparation of the tables used in this report. The project was conducted in cooperation with the county farm bureaus and was supervised by the following farm advisers: W. S. Batson, Shelby; G. B. Whitman, Adams; C. S. Love, Christian; A. E. Snyder, Montgomery; W. F. Coolidge, Morgan; O. O. Mowery, Macoupin; W. B. Bunn, Pike; C. T. Kibler, Jersey; Ray H. Roll, Greene; E. H. Garlich, Brown; G. H. Reid, Scott; and R. K. Wise, Schuyler.

[2] For 1941 actual receipts and net increases were used; for 1942 receipts and net increases were adjusted to the 1941 price level by dividing the 1942 receipts and net increases by the ratio of 1942 to 1941 Illinois farm price for each class of livestock or livestock product.

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 5, 1939-1942

| Item | Your farm | Average of all farms in area 1942 | 1941 | 1940 | 1939 |
|---|---|---|---|---|---|
| Inventory Changes | | | | | |
| Land improvements | $ | $ 52 | $) 75 | $ 118 | $ 99 |
| Farm buildings | | 7 | ) | | |
| Horses | | -4 | -36 | -38 | -33 |
| Productive livestock | | 844 | 966 | 381 | 331 |
| Feed, grain, and seeds | | 188 | 940 | 301 | 590 |
| Machinery and equipment | | 159 | 261 | 87 | 110 |
| Automobile (farm share) | | -22 | 35 | 21 | 11 |
| Total | $ | $ 1 224 | $ 2 241 | $ 870 | $ 1 108 |
| Cash Receipts | | | | | |
| Land improvements | $ | $ 4 | $) 6 | $ 10 | $ 12 |
| Farm buildings | | 6 | ) | | |
| Horses | | 48 | 40 | 43 | 53 |
| Productive livestock: Cattle | | 2 941 | 2 225 | 1 782 | 1 668 |
| Dairy sales | | 793 | 689 | 522 | 432 |
| Hogs | | 3 994 | 2 448 | 1 455 | 1 482 |
| Sheep | | 185 | 190 | 124 | 115 |
| Poultry | | 129 | 110 | 81 | 95 |
| Egg sales | | 259 | 178 | 116 | 115 |
| Total productive livestock | ( ) | (8 301) | (5 840) | (4 080) | (3 907) |
| Feed, grain, and seeds | | 2 332 | 1 766 | 1 264 | 1 387 |
| Machinery and equipment | | 270 | 281 | 249 | 265 |
| Automobile (farm share) | | 23 | 61 | 48 | 46 |
| AAA receipts | | 331 | 333 | 426 | 454 |
| Labor off farm | | 35 | 39 | 43 | 52 |
| Miscellaneous | | 6 | 10 | 13 | 18 |
| Total | $ | $11 356 | $ 8 376 | $ 6 176 | $ 6 194 |
| Cash Expenses | | | | | |
| Land improvements | $ | $ 208 | $) 367 | $ 368 | $ 320 |
| Farm buildings | | 258 | ) | | |
| Horses | | 45 | 27 | 23 | 30 |
| Productive livestock: Cattle | | 1 523 | 1 202 | 978 | 976 |
| Hogs | | 373 | 233 | 149 | 213 |
| Sheep | | 65 | 88 | 56 | 57 |
| Poultry | | 36 | 27 | 20 | 24 |
| Total productive livestock | ( ) | (1 997) | (1 550) | (1 203) | (1 270) |
| Feed and grain purchases | | 1 831 | 1 174 | 726 | 688 |
| Crop and sealing expense | | 236 | 142 | 124 | 133 |
| Machinery and equipment | | 1 255 | 1 158 | 857 | 872 |
| Automobile (farm share) | | 142 | 209 | 167 | 161 |
| Livestock expense | | 92 | 70 | 54 | 61 |
| Hired labor | | 529 | 421 | 370 | 379 |
| Taxes | | 316 | 296 | 294 | 289 |
| Miscellaneous | | 35 | 34 | 25 | 33 |
| Total | $ | $ 6 944 | $ 5 448 | $ 4 211 | $ 4 236 |
| Summary | | | | | |
| Total inventory change | $ | $ 1 224 | $ 2 241 | $ 870 | $ 1 108 |
| Cash balance | | 4 412 | 2 928 | 1 965 | 1 958 |
| Farm products used in household | | 342 | 283 | 244 | 256 |
| Receipts less expenses | $ | $ 5 978 | $ 5 452 | $ 3 079 | $ 3 322 |
| Total unpaid labor | | 1 093 | 850 | 770 | 769 |
| Net earnings per farm | $ | $ 4 885 | $ 4 602 | $ 2 309 | $ 2 553 |
| Net earnings per acre | $ | $ 19.44 | $ 18.39 | $ 9.04 | $ 9.77 |

Net earnings. The net earnings per farm on an inventory basis were higher in 1942 than in 1941; the average was $4,885 in 1942 compared with $4,602 in 1941. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding to the cash balance the value of farm products used in the household and the inventory increases and by subtracting from the resulting total the value of unpaid labor. Therefore this figure indicates the earning power of the business and determines the real value of the farm and its equipment. The average net earnings per acre were $19.44 in 1942, $18.39 in 1941, $9.04 in 1940, and $9.77 in 1939.

Inventory changes. The year 1942 was the tenth consecutive year in which inventories were increased. The largest increase for the past four years was $2,241 in 1941 and the smallest was $870 in 1940 (Table 1). In 1942 the largest increases were for livestock and feed and grain. The average amounts of grain on hand in Area 5 at the two inventory periods were:

| Crop | Beginning of year (bushels) | End of year (bushels) |
|---|---|---|
| Corn | 2 505 | 2 506 |
| Oats | 498 | 434 |
| Wheat | 223 | 56 |
| Soybeans | 203 | 225 |

Cash receipts and cash expenses. In 1942 cash receipts exceeded cash expenses by $4,412, the largest margin for any year in the past four. The cash balance--the difference between cash receipts and expenses--is the amount of money which was available for family living expenses, interest, debt payments, and savings.

Unpaid family labor. Although there was no appreciable change in the amount of family labor available, the total valuation of unpaid labor was higher for 1942 than for any other year in the past four. This increase resulted from the fact that the physical labor of the operator and other members of the family was valued at $70 per month in 1942, at $55 per month in 1941, and at $50 per month in 1939 and 1940.

Variation in farm earnings. A wide variation was found in earnings on the farms in Area 5. For example, 65 farms earned less than 9 percent on their investment, with an average of 5.2 percent; but 47 farms earned 24 percent or more, with an average of 30.3 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had $798 for labor and management earnings contrasted with $7,874 for the latter group. The variation in earnings for all the records in the area was as follows:

| Rate earned on investment (percent) | Number of farms | Average rate earned (percent) | Acres per farm | Capital invested per farm | Gross earnings per farm | Net earnings per farm | Labor and management earnings |
|---|---|---|---|---|---|---|---|
| Less than 9.00 | 65 | 5.2 | 201 | $22 740 | $ 5 220 | $1 186 | $ 798 |
| 9.00 to 13.99 | 89 | 11.6 | 278 | 34 465 | 8 768 | 3 996 | 3 032 |
| 14.00 to 18.99 | 91 | 16.6 | 259 | 31 594 | 9 076 | 5 258 | 4 467 |
| 19.00 to 23.99 | 60 | 21.1 | 259 | 32 557 | 11 384 | 6 867 | 6 042 |
| 24.00 or more | 47 | 30.3 | 247 | 27 869 | 13 144 | 8 433 | 7 874 |

## TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 5, 1942

| Item | Your farm | Standards for your farm | Average of all farms |
|---|---|---|---|
| Rate earned on investment- - - - - - - - - | ________% | 16.1% | 16.1% |
| Number of farms- - - - - - - - - - - - - - - | -- | -- | 352 |
| Acres in farm- - - - - - - - - - - - - - - - | ________ | 251 | 251 |
| Acres tillable - - - - - - - - - - - - - - - | ________ | 199 | 199 |
| Acres in crops - - - - - - - - - - - - - - - | ________ | 150 | 150 |
| Gross earnings per acre- - - - - - - - - - - | $________ | $________ a/ | $ 33.09 |
| Gross expenses per acre- - - - - - - - - - - | ________ | ________ | 13.65 |
| Net earnings per acre- - - - - - - - - - - - | | | 19.44 |
| Investments | | | |
| Value of land per acre - - - - - - - - - - | $________ | $ 69 | $ 69 |
| Value of improved land per acre- - - - - | ________ | ________ a/ | 77 |
| Value of buildings per acre- - - - - - - | ________ | ________ e/ | 12 |
| Total investment per acre- - - - - - - - | | 121 | 121 |
| Land Use | | | |
| Percent of land area tillable- - - - - - | ________ | ________ a/ | 79.1 |
| Percent of tillable land in: | | | |
| Corn - - - - - - - - - - - - - - - - - | ________ | ________ | 27.6 |
| Oats - - - - - - - - - - - - - - - - - | ________ | ________ | 10.9 |
| Wheat- - - - - - - - - - - - - - - - - | ________ | ________ | 4.5 |
| Soybeans - - - - - - - - - - - - - - - | ________ | ________ | 18.7 |
| Other crops- - - - - - - - - - - - - - | ________ | ________ | 5.4 |
| Legume hay and pasture - - - - - - - - | ________ | ________ | 20.5 |
| Nonlegume hay and pasture- - - - - - - | | | 12.4 |
| Crop Yields | | | |
| Corn - - - - - - - - - - - - - - - - - - - | ________ | ________ b/ | 55.4 |
| Oats - - - - - - - - - - - - - - - - - - - | ________ | ________ | 33.9 |
| Wheat- - - - - - - - - - - - - - - - - - - | ________ | 12.2 | 12.2 |
| Soybeans - - - - - - - - - - - - - - - - - | | b/ | 20.6 |
| Livestock Factors | | | |
| Value of feed fed to prod. l.s.- - - - - | $________ | $4 067 | $4 067 |
| Feed fed per acre to prod. l.s.- - - - - | ________ | ________ c/ | 16.18 |
| Returns per $100 worth of feed fed - - - | ________ | ________ | 182 |
| Poultry returns per hen- - - - - - - - - | ________ | 4.04 | 4.04 |
| Number of litters farrowed - - - - - - - | ________ | 21.5 | 21.5 |
| Number of pigs weaned per litter - - - - | ________ | 6.4 | 6.4 |
| Returns per litter farrowed- - - - - - - | $________ | $ 201 | $ 201 |
| Average number of cows milked- - - - - - | ________ | 7.1 | 7.1 |
| Dairy returns per cow milked - - - - - - | $ | $ c/ | $ 125 |
| Expense Factors | | | |
| Horse and machinery cost per crop acre - | $________ | $________ d/ | $ 7.52 |
| Labor cost per crop acre - - - - - - - - | | | 10.57 |
| Total months of labor- - - - - - - - - - | ________ | ________ e/ | 22.9 |
| Number of work horses- - - - - - - - - - | ________ | ________ | 3.4 |
| Land improvements cost per acre- - - - - | $________ | $ .60 | $ .60 |
| Buildings cost per acre- - - - - - - - - | ________ | ________ e/ | .97 |
| Land tax per acre- - - - - - - - - - - - | ________ | ________ a/ | 1.11 |

Source of Standards:
- a/ Table 3, value of improved land.
- b/ Fig. 1, value of improved land.
- c/ Table 4, source of income.
- d/ Table 6, size of farm and value of feed fed.
- e/ Table 5, size of farm.

# CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

## Accounting Farms in Farming-Type Area 5, 1942

The numbers above the double line are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Factors that affect the gross earnings | | | | | | | | | Total expense per acre | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Crop yields | | | | | | | | | | | |
| | | | Percent of tillable land in legume hay and pasture | Corn, bu. | Oats, bu. | Soybeans, bu. | Feed fed per acre to prod. l.s. | Returns per $100 feed fed | Poultry returns per hen | Hog returns per litter farrowed | Dairy returns per cow milked | | Horse and machinery cost per crop acre | Labor cost per crop acre | Buildings cost per acre |
| 36.1 | 501 | | | | | | | | 6.04 | 276 | | | | | |
| 32.1 | 451 | | | | | | | | 5.64 | 261 | | | | | |
| 28.1 | 401 | | | | | | | | 5.24 | 246 | | | | | |
| 24.1 | 351 | | | | | | | | 4.84 | 231 | | | | | |
| 20.1 | 301 | | | | | | | | 4.44 | 216 | | | | | |
| 16.1 | 251 | | | | | | | | 4.04 | 201 | | | | | |
| 12.1 | 201 | | | | | | | | 3.64 | 186 | | | | | |
| 8.1 | 151 | | | | | | | | 3.24 | 171 | | | | | |
| 4.1 | 101 | | | | | | | | 2.84 | 156 | | | | | |
| .1 | 51 | | | | | | | | 2.44 | 141 | | | | | |
| -- | -- | | | | | | | | 2.04 | 126 | | | | | |
| * 4% | 50 | $3 | 3% | 4 | 4 | 2 | $2 | $20 | $.40 | $15 | $10 | $1 | $.50 | $1 | $.20 |

*Each space between lines represents the values indicated at bottom of each column.

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 5, 1942

| Item | Value of improved land | | | | | |
|---|---|---|---|---|---|---|
| | Less than $43 | $43 to $62 | $63 to $82 | $83 to $102 | $103 to $122 | More than $122 |
| Average value of improved land- - - | $35 | $54 | $74 | $96 | $112 | $133 |
| Number of farms - - - - - - - - - - - | 51 | 89 | 93 | 79 | 11 | 29 |
| Acres per farm- - - - - - - - - - - - | 258 | 230 | 254 | 267 | 238 | 257 |
| Percent of land area tillable - - - | 65.1 | 76.0 | 79.7 | 85.2 | 86.7 | 91.3 |
| Percent of tillable land in: | | | | | | |
| Corn- - - - - - - - - - - - - - - - | 24.9 | 25.8 | 26.8 | 29.7 | 28.2 | 32.4 |
| Oats- - - - - - - - - - - - - - - - | 11.7 | 12.9 | 10.6 | 9.9 | 10.2 | 8.8 |
| Wheat - - - - - - - - - - - - - - - | 3.6 | 4.7 | 3.8 | 5.1 | 2.9 | 6.7 |
| Soybeans- - - - - - - - - - - - - - | 11.3 | 11.0 | 18.1 | 22.7 | 31.1 | 32.3 |
| Other crops - - - - - - - - - - - - | 8.1 | 6.9 | 6.0 | 4.2 | 1.3 | 1.0 |
| Legume hay and pasture- - - - - - | 23.4 | 25.0 | 21.3 | 18.2 | 16.2 | 11.7 |
| Nonlegume hay and pasture - - - - | 17.0 | 13.7 | 13.4 | 10.2 | 10.1 | 7.1 |
| Gross earnings per acre - - - - - - | $22.82 | $29.96 | $33.79 | $38.95 | $39.71 | $47.4 |
| Gross expenses per acre - - - - - - | 11.56 | 14.69 | 14.53 | 15.14 | 15.68 | 15.4 |
| Net earnings per acre - - - - - - - | $11.26 | $15.27 | $19.26 | $23.81 | $24.03 | $31.9 |
| Land tax per acre - - - - - - - - - - | $ .68 | $ .95 | $ 1.08 | $ 1.32 | $ 1.51 | $ 1.4 |

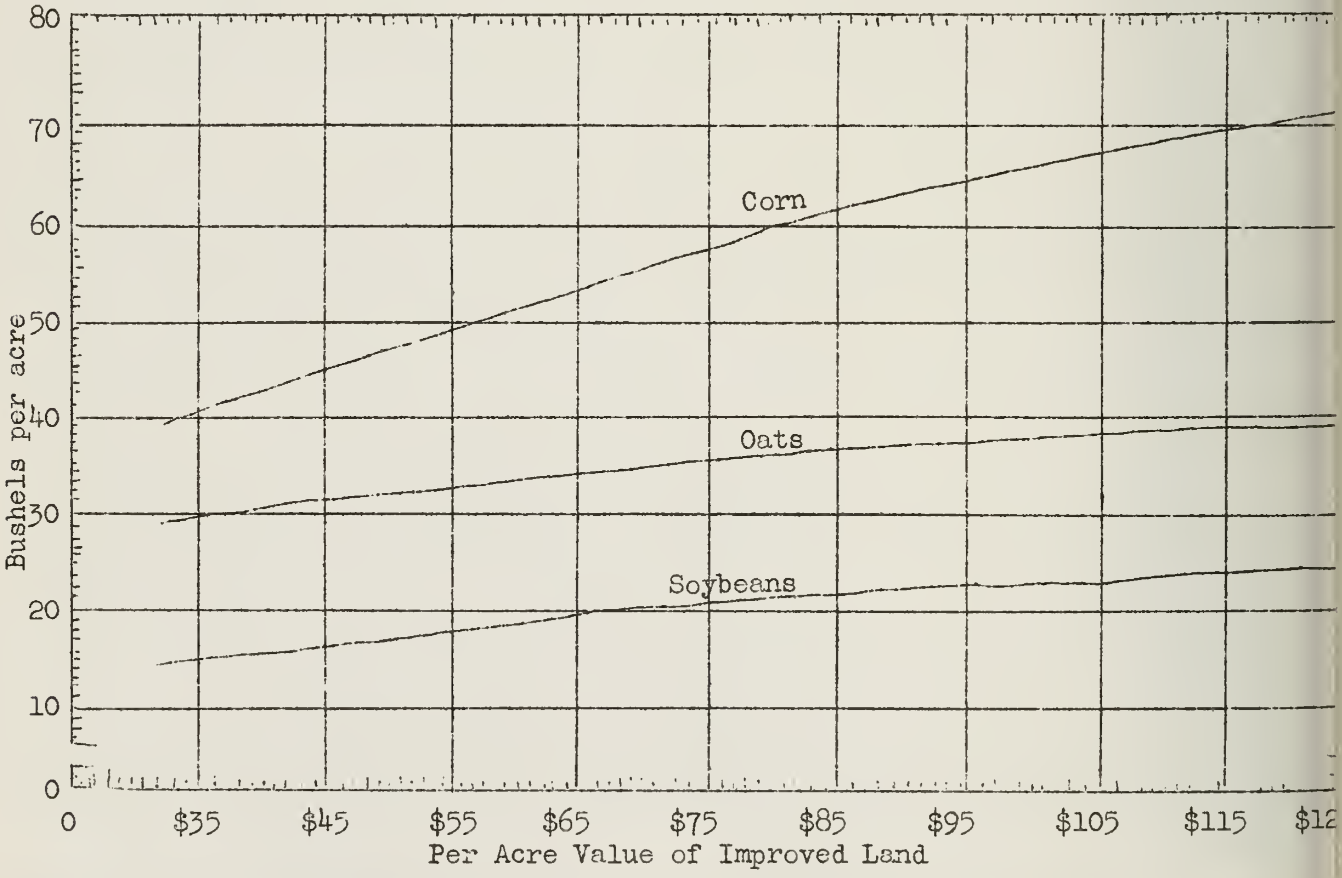

Fig. 1.--Average yields of corn, oats, and soybeans with varying values of improved land.

## Explanation of Tables

Variable standards are used in analyzing the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per $100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farm" (Table 2) are taken from Tables 3 to 6 and from Figure 1 as follows:

Table 3 - Value of improved land.
  Gross earnings, gross expenses, and net earnings per acre.
  Value of improved land per acre.
  All items in the land-use section.
  Land tax per acre.
Figure 1 - Value of improved land.
  Yields for corn, oats, and soybeans.
Table 4 - Source of income.
  Feed fed per acre to productive livestock.
  Returns per $100 worth of feed fed.
  Dairy returns per cow.
Table 5 - Size of farm.
  Value of buildings per acre.
  Total months of labor.
  Number of work horses.
  Buildings cost per acre.
Table 6 - Size of farm and amount of feed fed per acre.
  Horse and machinery cost per crop acre.
  Labor cost per crop acre.

The terms used in the tables are the same as the terms used in the Illinois farm account book. For example, "improved land" is classified on Page 1 of the farm account book. It means crop land, tillable pasture, and land occupied by farmstead, roads, and lanes. Likewise, "crop acres" are listed on Page 20 of the farm account book. They include all the tillable land on which a large amount of work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields. The percent of tillable land in grain crops increased as the value per acre for improved land increased (Table 3). Likewise the percent of land area tillable, the net earnings per acre, and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, and soybeans increased as the land value increased (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, his crop yields, and his net earnings per acre were high or low for 1942 in comparison with the average of other farms in his area having about the same value for improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 5, 1942

| Item | Source of income | | | | | |
|---|---|---|---|---|---|---|
| | | | | | General farms | |
| | Grain 40% + | Dairy sales 40% + | Hogs 40% + | Cattle 40%+ | L.S. 60%- | L.S. 60%+ |
| Number of farms - - - - - - - - - - | 42 | 20 | 183 | 15 | 15 | 7 |
| Percent of income from prod. l.s. | 34.8 | 92.4 | 92.2 | 94.1 | 55.1 | 86. |
| Percent of income from crops- - - | 55.9 | -- | -- | -- | 33.8 | 4. |
| Investments | | | | | | |
| Total per farm- - - - - - - - - - | $37 573 | $23 077 | $28 304 | $60 149 | $27 508 | $27 91 |
| Total per acre- - - - - - - - - - | 135 | 104 | 116 | 148 | 123 | 11 |
| Land per acre - - - - - - - - - - | 91 | 52 | 65 | 77 | 74 | 6 |
| Land improvements per acre- - - | 2.04 | 1.90 | 2.73 | 4.46 | 2.57 | 2.5 |
| Buildings per acre- - - - - - - - | 9.74 | 14.22 | 12.18 | 15.94 | 10.81 | 12.3 |
| Machinery per acre- - - - - - - - | 10.80 | 9.90 | 8.70 | 8.55 | 11.66 | 9.7 |
| Earnings | | | | | | |
| Per farm | | | | | | |
| Gross earnings- - - - - - - - - | $ 9 231 | $ 7 233 | $ 8 576 | $17 154 | $ 7 610 | $ 7 48 |
| Gross expenses- - - - - - - - - | 3 649 | 5 069 | 3 498 | 8 636 | 3 448 | 3 29 |
| Net earnings- - - - - - - - - - | $ 5 582 | $ 2 164 | $ 5 078 | $ 8 518 | $ 4 162 | $ 4 187 |
| Per acre | | | | | | |
| Gross earnings- - - - - - - - - | $ 33.08 | $ 32.53 | $ 35.17 | $ 42.09 | $ 33.97 | $ 31.71 |
| Gross expenses- - - - - - - - - | 13.08 | 22.80 | 14.35 | 21.19 | 15.39 | 13.97 |
| Net earnings- - - - - - - - - - | $ 20.00 | $ 9.73 | $ 20.82 | $ 20.90 | $ 18.58 | $ 17.74 |
| Rate earned on investment - - - | 14.9% | 9.4% | 17.9% | 14.2% | 15.1% | 15.0% |
| Labor and management earnings - | $ 4 482 | $ 1 784 | $ 4 451 | $ 6 294 | $ 3 578 | $ 3 563 |
| Size and Intensity | | | | | | |
| Acres per farm- - - - - - - - - - | 279 | 222 | 244 | 408 | 224 | 236 |
| Percent of land area tillable - | 89.2 | 70.6 | 76.3 | 79.7 | 84.5 | 80.8 |
| Percent tillable land in grain- | 75.1 | 47.7 | 60.7 | 61.2 | 73.0 | 60.4 |
| Percent in hay and pasture- - - | 23.1 | 45.6 | 35.3 | 32.2 | 22.9 | 33.5 |
| Feed fed per acre to prod. l.s. | $ 7.23 | $ 16.07 | $ 17.64 | $ 27.54 | $ 10.67 | $ 15.63 |
| Months of labor per 100 crop A. | 10.3 | 25.9 | 16.5 | 11.9 | 13.7 | 15.5 |
| Total months of labor - - - - - | 21.4 | 27.8 | 22.5 | 28.8 | 22.4 | 22.3 |
| Crop Yields per Acre | | | | | | |
| Corn, bu. - - - - - - - - - - - - | 58.2 | 40.3 | 56.4 | 61.2 | 60.3 | 50.5 |
| Wheat, bu.- - - - - - - - - - - - | 13.0 | 14.8 | 12.0 | 11.3 | 15.1 | 10.4 |
| Livestock Returns | | | | | | |
| Per $100 feed fed - - - - - - - | $ 172 | $ 194 | $ 190 | $ 146 | $ 186 | $ 182 |
| Hog returns per litter- - - - - | 181 | 163 | 206 | 224 | 217 | 181 |
| Dairy returns per cow - - - - - | 114 | 176 | 95 | 99 | 133 | 133 |
| Expense Factors | | | | | | |
| Labor cost per crop acre- - - - | $ 7.08 | $ 17.60 | $ 11.42 | $ 8.69 | $ 9.80 | $ 10.84 |
| Horse and machinery cost per crop acre - - - - - - - - | 6.63 | 9.70 | 7.58 | 7.44 | 7.68 | 7.69 |
| Land improvements cost per acre | .52 | .54 | .60 | .80 | .40 | .68 |
| Buildings cost per acre - - - - | .79 | 1.29 | 1.01 | 1.07 | .83 | .93 |
| Land tax per acre - - - - - - - | 1.28 | .86 | 1.07 | 1.19 | 1.12 | 1.04 |

Source of income. The grouping of accounting farms according to source of income for 1942 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer should, however, use caution in interpreting the data in Table 4. For example, the fact that hog farms earned the largest rate on the investment for 1942 and that dairy farms earned the smallest does not mean that such a relationship will prevail over a long period of years. The relative profitableness of these enterprises in 1942 was due largely to conditions affecting price and production.

In comparing the returns on the various groups of farms per $100 worth of feed fed, one should consider the fact that there is a wide variation in the needed returns per $100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, $195; dairy cattle, $157; hogs, $127; and feeder cattle, $117.

Furthermore, in a comparison of crop yields for the various types of farming, the following items, which indicate that the grain farms were located on the better land, should be noted: (1) high value of land per acre; (2) large percent of land area tillable; (3) large percent of land in grain; (4) high yield of corn per acre; and (5) high land tax per acre.

Differences in expenses are highly significant for the six groups of farms. Labor input per 100 crop acres was highest on the dairy farms, where 25.9 months of labor were used, and lowest on the grain farms, where 10.3 months of labor were used. The dairy farmers evidently utilized a large amount of available labor to increase the size of their businesses without increasing the size of their farms.

The labor cost per crop acre ranged from $7.08 on the grain farms to $17.60 on the dairy farms; the horse and machinery cost per crop acre was highest on the dairy farms where it averaged $9.70 and lowest on the grain farms, where it averaged $6.63; and the buildings cost per acre averaged $1.29 on the dairy farms and $.79 on the grain farms.

Size of farm. When the farm records in Farming-Type Area 5 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on the smaller ones. After deductions were made for farm business expenditures and interest on the investment, labor and management earnings on the 28 largest farms averaged $8,851 contrasted with $2,053 on the 31 smallest farms. The rate earned on investment did not differ significantly for the various size groups.

TABLE 5 --SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 5, 1942

| | Total acres in farm | | | | | |
|---|---|---|---|---|---|---|
| Item | Less than 121 | 121 to 200 | 201 to 280 | 281 to 360 | 361 to 440 | 441 or more |
| Number of farms - - - - - - - - - - | 31 | 125 | 96 | 49 | 23 | 28 |
| Acres per farm- - - - - - - - - - - | 104 | 165 | 241 | 327 | 393 | 586 |
| Investments | | | | | | |
| Total per farm- - - - - - - - - - | $14 010 | $19 875 | $28 698 | $41 151 | $45 993 | $69 142 |
| Total per acre- - - - - - - - - - | 135 | 121 | 119 | 126 | 117 | 118 |
| Land per acre - - - - - - - - - - | 74 | 68 | 68 | 74 | 70 | 65 |
| Land improvements per acre- - - | 3.66 | 2.71 | 2.78 | 1.98 | 2.37 | 3.09 |
| Buildings per acre- - - - - - - | 15.74 | 12.65 | 12.09 | 12.49 | 10.93 | 11.52 |
| Machinery per acre- - - - - - - | 11.71 | 9.89 | 9.44 | 10.12 | 8.21 | 8.06 |
| Earnings | | | | | | |
| Per farm | | | | | | |
| Gross earnings- - - - - - - - | $ 4 012 | $ 5 663 | $ 8 163 | $11 045 | $11 792 | $17 846 |
| Gross expenses- - - - - - - - | 1 997 | 2 560 | 3 408 | 4 480 | 4 552 | 6 252 |
| Net earnings- - - - - - - - - | $ 2 015 | $ 3 103 | $ 4 755 | $ 6 565 | $ 7 240 | $11 594 |
| Per acre | | | | | | |
| Gross earnings- - - - - - - - | $ 38.74 | $ 34.38 | $ 33.81 | $ 33.80 | $ 30.00 | $ 30.44 |
| Gross expenses- - - - - - - - | 19.28 | 15.54 | 14.12 | 13.71 | 11.58 | 10.66 |
| Net earnings- - - - - - - - - | $ 19.46 | $ 18.84 | $ 19.69 | $ 20.09 | $ 18.42 | $ 19.78 |
| Rate earned on investment - - - | 14.4% | 15.6% | 16.6% | 16.0% | 15.7% | 16.8% |
| Labor and management earnings - | $ 2 053 | $ 2 891 | $ 4 127 | $ 5 332 | $ 5 675 | $ 8 851 |
| Size and Intensity | | | | | | |
| Percent of land area tillable - | 86.7 | 83.3 | 81.0 | 79.9 | 71.6 | 73.3 |
| Percent tillable land in grain- | 61.9 | 62.4 | 61.9 | 66.8 | 63.1 | 60.3 |
| Percent in hay and pasture- - - | 31.8 | 32.7 | 34.5 | 29.7 | 32.6 | 34.2 |
| Feed fed per acre to prod. l.s. | $ 17.97 | $ 16.36 | $ 15.50 | $ 15.90 | $ 14.61 | $ 17.75 |
| Percent of income from prod.l.s. | 83.2 | 87.4 | 84.1 | 81.4 | 88.1 | 91.1 |
| Percent of income from crops- - | 5.4 | 2.2 | 7.7 | 10.3 | 5.9 | 1.1 |
| Months of labor per 100 crop A. | 22.6 | 18.0 | 15.9 | 14.0 | 13.0 | 11.1 |
| Total months of labor - - - - - | 15.6 | 18.6 | 23.1 | 28.7 | 27.1 | 35.6 |
| Number of work horses - - - - - | 2.4 | 3.0 | 3.7 | 3.5 | 4.1 | 4.9 |
| Crop Yields per Acre | | | | | | |
| Corn, bu. - - - - - - - - - - - - | 55.6 | 51.9 | 54.4 | 55.9 | 58.6 | 60.0 |
| Wheat, bu.- - - - - - - - - - - - | 12.1 | 10.7 | 12.3 | 14.5 | 12.8 | 11.3 |
| Livestock Returns | | | | | | |
| Per $100 feed fed - - - - - - - - | $ 191 | $ 193 | $ 191 | $ 180 | $ 186 | $ 159 |
| Hog returns per litter- - - - - | 186 | 196 | 203 | 206 | 197 | 209 |
| Dairy returns per cow - - - - - | 130 | 120 | 128 | 128 | 113 | 121 |
| Expense Factors | | | | | | |
| Labor cost per crop acre- - - - | $ 15.20 | $ 12.54 | $ 11.16 | $ 9.54 | $ 8.86 | $ 7.80 |
| Horse and machinery cost per crop acre - - - - - - - - - - | 8.04 | 7.65 | 7.52 | 7.79 | 7.74 | 6.81 |
| Land improvements cost per acre | .87 | .61 | .60 | .51 | .66 | .62 |
| Buildings cost per acre - - - - | 1.37 | .97 | 1.09 | .94 | .96 | .77 |
| Land tax per acre - - - - - - - | 1.21 | 1.17 | 1.09 | 1.08 | 1.08 | 1.00 |

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses. Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases, but decrease as the size of farm increases. Therefore the efficiency of a farm in using labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 5, 1942

| Acres per farm | Feed fed per acre | | | Feed fed per acre | | |
|---|---|---|---|---|---|---|
| | Less than $8.00 | $8.00 to $12.99 | $13.00 or more | Less than $8.00 | $8.00 to $12.99 | $13.00 or more |
| | (labor cost per crop acre) | | | (horse and machinery cost per crop acre) | | |
| Less than 121 | $14.40 | $15.10 | $15.70 | $7.00 | $7.40 | $8.50 |
| 121 to 200 | 12.20 | 12.80 | 13.30 | 6.50 | 7.00 | 8.20 |
| 201 to 280 | 8.70 | 10.40 | 12.40 | 6.40 | 6.80 | 8.00 |
| 281 to 360 | 7.10 | 9.50 | 11.00 | 6.70 | 7.00 | 8.20 |
| 361 to 440 | 6.90 | 7.60 | 10.20 | 6.70 | 7.00 | 8.20 |
| 441 or more | 6.60 | 7.00 | 8.70 | 6.40 | 6.70 | 7.20 |

## Producing for War Needs

In any given period gross receipts for hogs, cattle, dairy sales, eggs, and grain are relative measures of production (Table 7). Therefore the account keeper should use these standards to compare his own production with that of other account keepers. He should then adopt on his farm the kind of farm plan and the management practices that will make the best possible use of land, buildings, livestock, labor, machinery, and other resources for the duration of the war. Thus he will have more products to put on the nation's markets and will be making the greatest possible contribution to the war effort.

## TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 5, 1939-1942

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1942 | 1941 | 1940 | 1939 |
| Number of farms | -- | 352 | 362 | 316 | 315 |
| Capital Investments | | | | | |
| Land | $ | $17 319 | $16 944 | $17 809 | $18 253 |
| Land improvements | | 670 | 3 688 | 3 581 | 3 453 |
| Farm buildings | | 3 066 | | | |
| Horses | | 259 | 310 | 374 | 407 |
| Productive livestock: Cattle | | 2 350 | 1 911 | 1 722 | 1 490 |
| Hogs | | 1 029 | 616 | 612 | 629 |
| Sheep | | 139 | 118 | 115 | 91 |
| Poultry | | 105 | 85 | 85 | 102 |
| Total productive livestock | ( ) | (3 623) | (2 730) | (2 534) | (2 312 |
| Feed, grain, and seeds | | 3 062 | 2 349 | 2 384 | 1 998 |
| Machinery and equipment | | 2 068 | 1 812 | 1 831 | 1 775 |
| Automobile (farm share) | | 285 | 204 | 168 | 173 |
| Total | $ | $30 352 | $28 037 | $28 681 | $28 371 |
| Receipts and Net Increases | | | | | |
| Horses | $ | $ -- | $ -- | $ -- | $ -- |
| Productive livestock: Cattle | | 1 786 | 1 507 | 1 128 | 1 021 |
| Dairy sales | | 793 | 689 | 522 | 432 |
| Hogs | | 4 078 | 2 655 | 1 335 | 1 260 |
| Sheep | | 110 | 123 | 92 | 77 |
| Poultry | | 122 | 104 | 65 | 63 |
| Egg sales | | 259 | 178 | 116 | 115 |
| Total productive livestock | ( ) | (7 148) | (5 256) | (3 258) | (2 968 |
| Farm products used in household | | 342 | 283 | 244 | 256 |
| Feed, grain, and seeds | | 453 | 1 390 | 715 | 1 156 |
| AAA receipts | | 331 | 333 | 426 | 454 |
| Labor off farm | | 35 | 39 | 43 | 52 |
| Miscellaneous | | 6 | 10 | 13 | 18 |
| Total | $ | $ 8 315 | $ 7 311 | $ 4 699 | $ 4 904 |
| Expenses and Net Decreases | | | | | |
| Land improvements | $ | $ 152 | $ 286 | $ 240 | $ 209 |
| Farm buildings | | 245 | | | |
| Horses | | 1 | 23 | 18 | 10 |
| Productive livestock | | -- | -- | -- | -- |
| Feed, grain, and seeds | | -- | -- | -- | -- |
| Machinery and equipment | | 826 | 616 | 521 | 497 |
| Automobile (farm share) | | 141 | 113 | 98 | 104 |
| Livestock expense | | 92 | 70 | 54 | 61 |
| Hired labor | | 529 | 421 | 370 | 379 |
| Taxes | | 316 | 296 | 294 | 289 |
| Miscellaneous | | 35 | 34 | 25 | 33 |
| Total | $ | $ 2 337 | $ 1 859 | $ 1 620 | $ 1 582 |
| Receipts less expenses | $ | $ 5 978 | $ 5 452 | $ 3 079 | $ 3 322 |
| Family labor | | 310 | 248 | 234 | 245 |
| Returns for labor, capital, mgt. | $ | $ 5 668 | $ 5 204 | $ 2 845 | $ 3 077 |
| Operator's labor | | 783 | 602 | 536 | 524 |
| Net earnings per farm | $ | $ 4 885 | $ 4 602 | $ 2 309 | $ 2 553 |
| Rate Earned on Investment | % | 16.1% | 16.4% | 8.1% | 9.0% |
| Interest on investment | $ | $ 1 518 | $ 1 402 | $ 1 434 | $ 1 418 |
| Labor and Management Earnings | | 4 150 | 3 802 | 1 411 | 1 659 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United States Department of Agriculture cooperating. H. P. Rusk, *Director*. Acts approved by Congress May 8 and June 30, 1914.

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# FARM BUSINESS REPORT . . . 1942

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## FARMING-TYPE AREA SIX
## St. Louis Dairy and Wheat Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

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Annual Farm Business Report

# ON THREE HUNDRED TWENTY FARMS IN FARMING-TYPE AREA 6, 1942

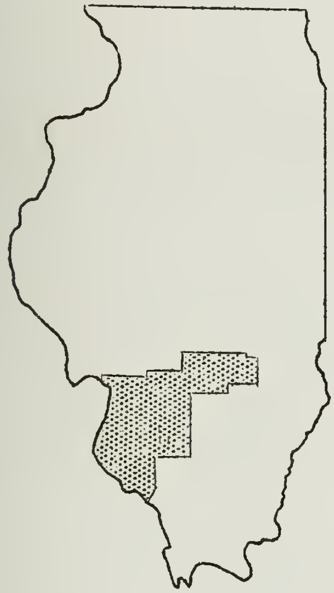
By P. E. Johnston, J. B. Cunningham, and E. L. Sauer[1]

War adjustments. Farm account cooperators in Farming-Type Area 6 responded to the war demand for increased production in 1942 over that of 1941 by increasing grain acreage and numbers of livestock.

| Item | 1941 | 1942 | Change |
|---|---|---|---|
| Acres per farm | 213 | 216 | 3 acres increase |
| Acres of grain crops | 91 | 93 | 2 acres increase |
| Number of dairy cows | 9 | 10 | 1 cow increase |
| Number of pigs weaned | 55 | 63 | 8 pigs increase |
| Number of hens | 156 | 179 | 23 hens increase |
| Total months of labor | 23 | 23 | None |
| Value of machinery (beginning of year) | $1 686 | $1 893 | $207 increase |
| Tons of grain produced | 69 | 61 | 8 tons decrease |
| Receipts and net increases for livestock and livestock products | $3 361 | $3 349[2] | $ 12 decrease |

The cooperators used the same amount of labor in 1942 as in 1941 but increased machinery investments.

Total grain produced per farm decreased from 69 tons in 1941 to 61 tons in 1942 because of a small wheat crop. Livestock production, as measured by receipts and net increases for livestock and livestock products valued at the same prices for 1942 as for 1941, showed a small decrease. This decrease may be explained by one or more of the following factors: decreased efficiency accompanying increased intensity, loss of pigs after weaning, and low quality of hay and other feeds. Time of marketing and conservative values for breeding and milk stock might have affected receipts and net increases.



▨ Farming-Type Area 6
Wheat, Dairy, and Poultry

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[1] W. N. Thompson supervised the closing of the farm accounts and the preparation of the tables used in this report. The project was conducted in cooperation with the county farm bureaus and was supervised by the following farm advisers: T. W. May, Madison; E. C. Secor, Randolph; W. H. Tammeus, Bond; B. W. Tillman, St. Clair; C. S. Cutright, Effingham; A. B. Rowand, Washington; C. E. Twigg, Clinton; E. S. Amrine, Monroe; and J. B. Turner, Fayette.

[2] Receipts and net increases in 1942 were adjusted to the 1941 price level by dividing the 1942 receipts and net increases by the ratio of 1942 to 1941 Illinois farm price for each class of livestock or livestock product, except dairy products, for which St. Louis milk prices were used.

## TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 6, 1939-1942

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1942 | 1941 | 1940 | 1939 |
| Inventory Changes | | | | | |
| Land improvements | $ | $ 40 | $ 66 | $ 65 | $ 54 |
| Farm buildings | | -14 | | | |
| Horses | | -20 | -53 | -39 | -21 |
| Productive livestock | | 349 | 386 | 143 | 163 |
| Feed, grain, and seeds | | 150 | 275 | 217 | 332 |
| Machinery and equipment | | 150 | 179 | 119 | 56 |
| Automobile (farm share) | | -26 | 26 | 9 | 13 |
| Total | $ | $ 629 | $ 879 | $ 514 | $ 597 |
| Cash Receipts | | | | | |
| Land improvements | $ | $ 3 | $ 5 | $ 5 | $ 8 |
| Farm buildings | | 11 | | | |
| Horses | | 46 | 48 | 39 | 45 |
| Productive livestock: Cattle | | 964 | 773 | 603 | 449 |
| Dairy sales | | 1480 | 1233 | 915 | 841 |
| Hogs | | 1369 | 886 | 531 | 584 |
| Sheep | | 80 | 68 | 49 | 38 |
| Poultry | | 143 | 112 | 102 | 115 |
| Egg sales | | 471 | 317 | 236 | 225 |
| Total productive livestock | ( ) | (4507) | (3389) | (2436) | (2252) |
| Feed, grain, and seeds | | 1166 | 987 | 853 | 852 |
| Machinery and equipment | | 188 | 203 | 208 | 170 |
| Automobile (farm share) | | 17 | 37 | 28 | 28 |
| AAA receipts | | 235 | 131 | 314 | 229 |
| Labor off farm | | 23 | 32 | 38 | 50 |
| Miscellaneous | | 8 | 15 | 26 | 15 |
| Total | $ | $ 6204 | $ 4847 | $ 3947 | $ 3649 |
| Cash Expenses | | | | | |
| Land improvements | $ | $ 170 | $ 273 | $ 251 | $ 219 |
| Farm buildings | | 195 | | | |
| Horses | | 29 | 23 | 24 | 28 |
| Productive livestock: Cattle | | 376 | 308 | 261 | 248 |
| Hogs | | 96 | 67 | 40 | 51 |
| Sheep | | 15 | 7 | 7 | 5 |
| Poultry | | 46 | 32 | 27 | 28 |
| Total productive livestock | ( ) | ( 533) | ( 414) | ( 335) | ( 332) |
| Feed and grain purchases | | 962 | 616 | 399 | 412 |
| Crop and sealing expense | | 152 | 118 | 85 | 84 |
| Machinery and equipment | | 1020 | 886 | 715 | 570 |
| Automobile (farm share) | | 109 | 160 | 116 | 114 |
| Livestock expense | | 64 | 45 | 39 | 42 |
| Hired labor | | 348 | 275 | 236 | 229 |
| Taxes | | 186 | 181 | 167 | 163 |
| Miscellaneous | | 31 | 26 | 23 | 23 |
| Total | $ | $ 3799 | $ 3017 | $ 2390 | $ 2216 |
| Summary | | | | | |
| Total inventory change | $ | $ 629 | $ 879 | $ 514 | $ 597 |
| Cash balance | | 2405 | 1830 | 1557 | 1433 |
| Farm products used in household | | 349 | 282 | 250 | 264 |
| Receipts less expenses | $ | $ 3383 | $ 2991 | $ 2321 | $ 2294 |
| Total unpaid labor | | 1174 | 804 | 689 | 688 |
| Net earnings per farm | $ | $ 2209 | $ 2187 | $ 1632 | $ 1606 |
| Net earnings per acre | $ | $10.21 | $10.27 | $ 8.15 | $ 7.96 |

Net earnings. The net earnings per farm on an inventory basis were about the same in 1942 as in 1941; the average was $2,209 in 1942 compared with $2,187 in 1941. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. The average net earnings per acre were $10.21 in 1942, $10.27 in 1941, $8.15 in 1940, and $7.96 in 1939.

Inventory changes. The year 1942 was the seventh consecutive year in which inventories were increased. The largest increase for the past four years was $879 in 1941 and the smallest, $514 in 1940 (Table 1). In 1942 the largest increases were for livestock, feed and grain, and machinery. The average amounts of grain on hand in Area 6 at the two inventory periods were:

| Crop | Beginning of year (bushels) | End of year (bushels) |
|---|---|---|
| Corn | 913 | 975 |
| Oats | 356 | 374 |
| Wheat | 409 | 190 |
| Soybeans | 43 | 86 |

Cash receipts and cash expenses. In 1942 cash receipts exceeded cash expenses by $2,405, the largest margin for any year in the past four. The cash balance--the difference between cash receipts and expenses--is the amount of money which was available for family living expenses, interest, debt payments, and savings.

Unpaid family labor. Although there was no appreciable change in the amount of family labor available, the total valuation of unpaid labor was higher for 1942 than for any other year in the past four. This increase resulted from the fact that the physical labor of the operator and other members of the family was valued at $65 per month in 1942, at $45 per month in 1941, and at $40 per month in 1940 and 1939.

Variation in farm earnings. A wide variation was found in earnings on the farms in Area 6. For example, 63 farms earned less than 5 percent on their investment, with an average of 2.1 percent; but 39 farms earned 20 percent or more, with an average of 24.0 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had $150 for labor and management earnings contrasted with $4,423 for the latter group.

| Rate earned on investment (percent) | Number of farms | Average rate earned (percent) | Acres per farm | Capital invested per farm | Gross earnings per farm | Net earnings per farm | Labor and management earnings |
|---|---|---|---|---|---|---|---|
| Less than 5.00 | 63 | 2.1 | 228 | $18 991 | $4 100 | $ 391 | $ 150 |
| 5.00 to 9.99 | 79 | 7.5 | 221 | 19 789 | 4 681 | 1 484 | 1 195 |
| 10.00 to 14.99 | 83 | 12.5 | 209 | 19 715 | 5 767 | 2 460 | 2 190 |
| 15.00 to 19.99 | 56 | 17.3 | 204 | 18 380 | 6 288 | 3 188 | 3 007 |
| 20.00 or more | 39 | 24.0 | 220 | 19 525 | 8 387 | 4 677 | 4 423 |

TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 6, 1942

| Item | Your farm | Standards for your farm | Average of all farms |
|---|---|---|---|
| Rate earned on investment | % | 11.4% | 11.4% |
| Number of farms | -- | -- | 320 |
| Acres in farm |  | 216 | 216 |
| Acres tillable |  | 174 | 174 |
| Acres in crops |  | 126 | 126 |
| Gross earnings per acre | $ | $ a/ | $ 23.76 |
| Gross expenses per acre |  |  | 13.55 |
| Net earnings per acre |  |  | 10.21 |
| Investments |  |  |  |
| Value of land per acre | $ | $ 46 | $ 46 |
| Value of improved land per acre |  | a/ | 50 |
| Value of buildings per acre |  | e/ | 12 |
| Total investment per acre |  | 89 | 89 |
| Land Use |  |  |  |
| Percent of land area tillable |  | a/ | 80.6 |
| Percent of tillable land in: |  |  |  |
| Corn |  |  | 16.9 |
| Oats |  |  | 11.6 |
| Wheat |  |  | 15.9 |
| Soybeans |  |  | 6.5 |
| Other crops |  |  | 12.0 |
| Legume hay and pasture |  |  | 25.6 |
| Nonlegume hay and pasture |  |  | 11.5 |
| Crop Yields |  |  |  |
| Corn |  | b/ | 42.9 |
| Oats |  |  | 30.2 |
| Wheat |  |  | 14.0 |
| Soybeans |  | 15.9 | 15.9 |
| Livestock Factors |  |  |  |
| Value of feed fed to prod. l.s. | $ | $2 399 | $2 399 |
| Feed fed per acre to prod. l.s. |  | c/ | 11.09 |
| Returns per $100 worth of feed fed |  |  | 191 |
| Poultry returns per hen |  | 3.74 | 3.74 |
| Number of litters farrowed |  | 9.8 | 9.8 |
| Number of pigs weaned per litter |  | 6.4 | 6.4 |
| Returns per litter farrowed | $ | $ 199 | $ 199 |
| Average number of cows milked |  | 10.1 | 10.1 |
| Dairy returns per cow milked | $ | $ c/ | $ 154 |
| Expense Factors |  |  |  |
| Horse and machinery cost per crop acre | $ | $ d/ | $ 7.72 |
| Labor cost per crop acre |  |  | 11.85 |
| Total months of labor |  | e/ | 23.3 |
| Number of work horses |  |  | 3.6 |
| Land improvements cost per acre | $ | $ .58 | $ .58 |
| Buildings cost per acre |  | e/ | .91 |
| Land tax per acre |  | a/ | .73 |

Source of Standards:
a/ Table 3, value of improved land.
b/ Fig. 1, value of improved land.
c/ Table 4, source of income.
d/ Table 6, size of farm and value of feed fed.
e/ Table 5, size of farm.

# CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

## Accounting Farms in Farming-Type Area 6, 1942

The numbers above the double line are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Factors that affect the gross earnings | | | | | | | | | Total expense per acre | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Percent of tillable land in legume hay and pasture | Crop yields | | | Feed fed per acre to prod. l.s. | Returns per $100 feed fed | Poultry returns per hen | Hog returns per litter farrowed | Dairy returns per cow milked | | Horse and machinery cost per crop acre | Labor cost per crop acre | Buildings cost per acre |
| | | | | Corn, bu. | Oats, bu. | Wheat, bu. | | | | | | | | | |
| 26.4 | 366 | | | | | | | | 5.24 | 249 | | | | | |
| 23.4 | 336 | | | | | | | | 4.94 | 239 | | | | | |
| 20.4 | 306 | | | | | | | | 4.64 | 229 | | | | | |
| 17.4 | 276 | | | | | | | | 4.34 | 219 | | | | | |
| 14.4 | 246 | | | | | | | | 4.04 | 209 | | | | | |
| 11.4 | 216 | | | | | | | | 3.74 | 199 | | | | | |
| 8.4 | 186 | | | | | | | | 3.44 | 189 | | | | | |
| 5.4 | 156 | | | | | | | | 3.14 | 179 | | | | | |
| 2.4 | 126 | | | | | | | | 2.84 | 169 | | | | | |
| -- | 96 | | | | | | | | 2.54 | 159 | | | | | |
| -- | 66 | | | | | | | | 2.24 | 149 | | | | | |
| * 3% | 30 | $3 | 3% | 4bu. | 4bu. | 2 bu. | $2 | $20 | $.30 | $10 | $10 | $1 | $.50 | $1 | $.20 |

* Each space between lines represents the values indicated at bottom of each column.

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 6, 1942

| Item | Value of improved land: Less than $38 | $38 to $52 | $53 to $67 | $68 to $82 | More than $82 |
|---|---|---|---|---|---|
| Average value of improved land | $30 | $45 | $59 | $75 | $90 |
| Number of farms | 79 | 116 | 57 | 49 | 19 |
| Acres per farm | 244 | 215 | 223 | 174 | 202 |
| Percent of land area tillable | 79.3 | 80.4 | 79.8 | 82.9 | 84.0 |
| Percent of tillable land in: | | | | | |
| Corn | 14.9 | 16.1 | 17.2 | 21.4 | 21.9 |
| Oats | 11.7 | 12.0 | 11.9 | 12.1 | 7.8 |
| Wheat | 12.0 | 15.8 | 16.2 | 20.3 | 25.0 |
| Soybeans | 7.1 | 6.7 | 6.3 | 4.8 | 6.0 |
| Other crops | 13.7 | 11.4 | 12.1 | 9.8 | 12.9 |
| Legume hay and pasture | 26.2 | 25.8 | 26.9 | 22.5 | 20.5 |
| Nonlegume hay and pasture | 14.4 | 12.2 | 9.4 | 9.1 | 5.9 |
| Gross earnings per acre | $18.69 | $22.58 | $26.36 | $30.38 | $34.94 |
| Gross expenses per acre | 11.44 | 13.17 | 14.01 | 17.32 | 17.97 |
| Net earnings per acre | $ 7.25 | $ 9.41 | $12.35 | $13.06 | $16.97 |
| Land tax per acre | $ .59 | $ .66 | $ .81 | $ 1.02 | $ .99 |

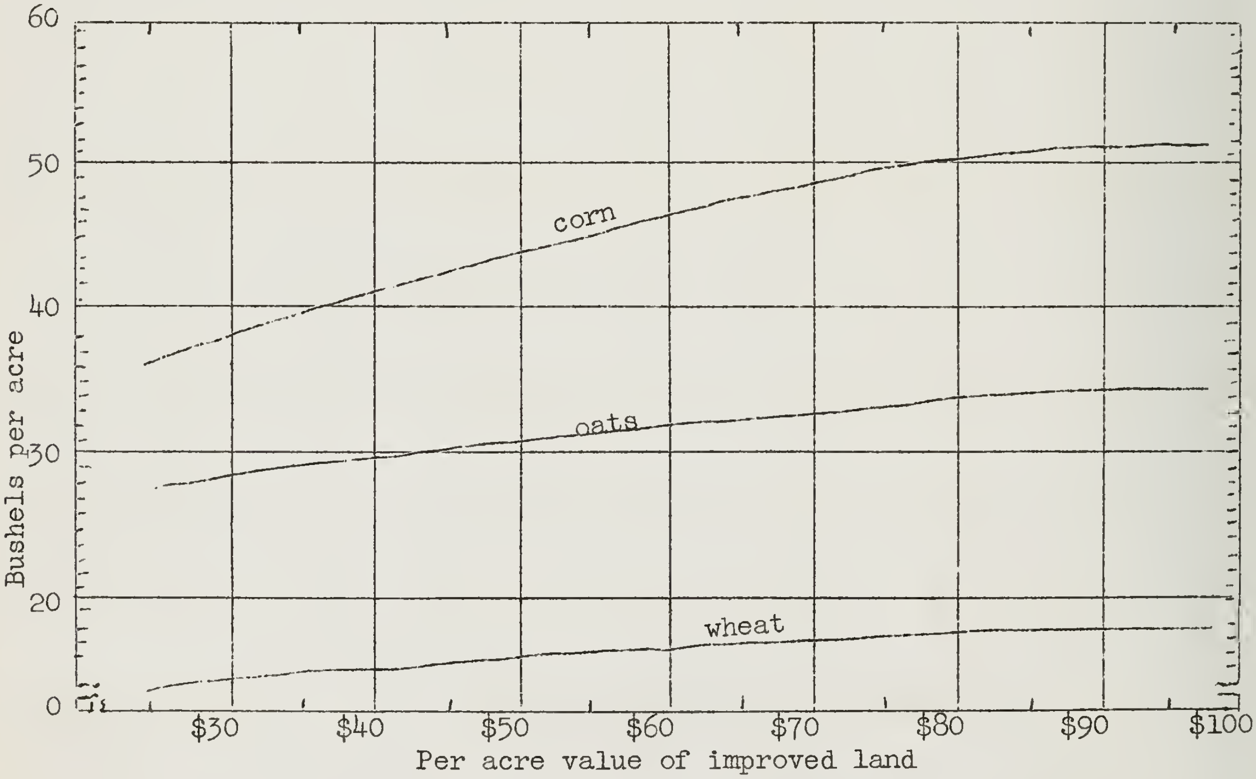

Fig. 1.--Average yields of corn, oats, and wheat with varying values of improved land.

## Explanation of Tables

Variable standards are used in analyzing the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per $100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farm" (Table 2) are taken from Tables 3 to 6 and from Figure 1 as follows:

Table 3 - *Value of improved land*.
    Gross earnings, gross expenses, and net earnings per acre.
    Value of improved land per acre.
    All items in the land-use section.
    Land tax per acre.
Figure 1 - *Value of improved land*.
    Yields for corn, oats, and wheat.
Table 4 - *Source of income*.
    Feed fed per acre to productive livestock.
    Returns per $100 worth of feed fed.
    Dairy returns per cow.
Table 5 - *Size of farm*.
    Value of buildings per acre.
    Total months of labor.
    Number of work horses.
    Buildings cost per acre.
Table 6 - *Size of farm and amount of feed fed per acre*.
    Horse and machinery cost per crop acre.
    Labor cost per crop acre.

The terms used in the tables are the same as the terms used in the Illinois farm account book. For example, "improved land" is classified on page 1 of the farm account book. It means crop land, tillable pasture, and land occupied by farmstead, roads, and lanes. Likewise, "crop acres" are listed on page 20 of the farm account book. They include all the tillable land on which a considerable amount of work has been done in preparing a seedbed or in cultivating or harvesting a crop.

*Land use and crop yields*. The percent of tillable land in grain crops and "other crops" increased as the value per acre for improved land increased (Table 3). Likewise the percent of land area tillable, the earnings per acre, and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, and wheat increased as the value of improved land increased (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, his crop yields, and his net earnings per acre were high or low for 1942 in comparison with the average of other farms in his area having about the same value for improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 6, 1942

| Item | Source of income | | | | | |
|---|---|---|---|---|---|---|
| | | | | | General farms | |
| | Grain 40% + | Dairy sales 40% + | Hogs 40% + | Cattle 40% + | L.S. 60%- | L.S. 60% + |
| Number of farms - - - - - - - - - - | 19 | 94 | 46 | 6 | 36 | 119 |
| Percent of income from prod. l.s. | 42.4 | 88.7 | 92.0 | 90.4 | 54.3 | 81.0 |
| Percent of income from crops- - - | 47.0 | -- | -- | -- | 32.2 | 5.8 |
| Investments | | | | | | |
| Total per farm- - - - - - - - - - | $22 738 | $19 073 | $21 080 | $25 216 | $18 660 | $18 229 |
| Total per acre- - - - - - - - - - | 85 | 97 | 89 | 109 | 86 | 85 |
| Land per acre - - - - - - - - - - | 49 | 47 | 44 | 42 | 46 | 45 |
| Land improvements per acre- - - | 1.35 | 2.19 | 2.23 | 4.48 | 1.89 | 2.16 |
| Buildings per acre- - - - - - - | 8.80 | 14.07 | 12.12 | 13.59 | 10.57 | 10.72 |
| Machinery per acre- - - - - - - | 9.58 | 11.41 | 9.22 | 13.65 | 9.60 | 8.97 |
| Earnings | | | | | | |
| Per farm | | | | | | |
| Gross earnings- - - - - - - - | $ 5 149 | $ 5 205 | $ 7 021 | $ 9 506 | $ 5 137 | $ 4 761 |
| Gross expenses- - - - - - - - | 2 875 | 3 318 | 3 994 | 6 041 | 2 568 | 2 795 |
| Net earnings- - - - - - - - - | $ 2 274 | $ 1 887 | $ 3 027 | $ 3 465 | $ 2 569 | $ 1 966 |
| Per acre | | | | | | |
| Gross earnings- - - - - - - - | $ 19.29 | $ 26.40 | $ 29.58 | $ 41.21 | $ 23.63 | $ 22.23 |
| Gross expenses- - - - - - - - | 10.77 | 16.83 | 16.83 | 26.19 | 11.81 | 13.05 |
| Net earnings- - - - - - - - - | $ 8.52 | $ 9.57 | $ 12.75 | $ 15.02 | $ 11.82 | $ 9.18 |
| Rate earned on investment - - - | 10.0% | 9.9% | 14.4% | 13.7% | 13.8% | 10.8% |
| Labor and management earnings - | $ 1 887 | $ 1 658 | $ 2 663 | $ 2 968 | $ 2 366 | $ 1 758 |
| Size and Intensity | | | | | | |
| Acres per farm- - - - - - - - - | 267 | 197 | 237 | 231 | 217 | 214 |
| Percent of land area tillable - | 81.8 | 80.8 | 76.2 | 83.6 | 84.1 | 80.8 |
| Percent tillable land in grain- | 62.8 | 49.8 | 56.5 | 57.8 | 60.3 | 55.1 |
| Percent in hay and pasture- - - | 27.4 | 41.7 | 36.2 | 40.4 | 32.9 | 37.2 |
| Feed fed per acre to prod. l.s. | $ 4.99 | $ 12.32 | $ 15.88 | $ 22.98 | $ 7.38 | $ 9.85 |
| Months of labor per 100 crop A. | 12.2 | 21.4 | 17.2 | 18.8 | 15.0 | 19.3 |
| Total months of labor - - - - - | 20.6 | 24.3 | 22.2 | 30.1 | 20.5 | 24.0 |
| Crop Yields per Acre | | | | | | |
| Corn, bu. - - - - - - - - - - - - | 45.0 | 41.5 | 44.7 | 46.4 | 50.9 | 40.0 |
| Wheat, bu.- - - - - - - - - - - - | 15.7 | 12.9 | 15.3 | 13.1 | 16.5 | 12.8 |
| Livestock Returns | | | | | | |
| Per $100 feed fed - - - - - - - | $ 181 | $ 201 | $ 178 | $ 170 | $ 190 | $ 197 |
| Hog returns per litter- - - - - | 173 | 184 | 221 | 282 | 187 | 181 |
| Dairy returns per cow - - - - - | 88 | 183 | 134 | 156 | 115 | 135 |
| Expense Factors | | | | | | |
| Labor cost per crop acre- - - - | $ 8.16 | $ 14.26 | $ 11.00 | $ 11.65 | $ 9.34 | $ 12.08 |
| Horse and machinery cost per crop acre - - - - - - - - - | 6.52 | 8.98 | 8.44 | 8.75 | 6.45 | 7.13 |
| Land improvements cost per acre | .43 | .65 | .61 | .97 | .55 | .56 |
| Buildings cost per acre - - - - | .61 | 1.07 | 1.13 | 1.28 | .62 | .84 |
| Land tax per acre - - - - - - - | .76 | .74 | .66 | .75 | .77 | .73 |

Source of income. The grouping of accounting farms according to source of income for 1942 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer should, however, use caution in interpreting the data in Table 4. For example, the fact that hog farms earned 14.4 percent on the investment for 1942 and that dairy farms earned 9.9 percent does not mean that such a relationship will prevail over a long period of years. The relative profitableness of these enterprises in 1942 was due largely to conditions affecting price and production.

In comparing the returns on the various groups of farms per $100 worth of feed fed, one should consider the fact that there is a wide variation in the needed returns per $100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, $195; dairy cattle, $157; hogs, $127; and feeder cattle, $117.

The labor cost per crop acre ranged from $14.26 on the dairy farms to $8.16 on the grain farms. The horse and machinery cost per crop acre was highest on the dairy farms, where it averaged $8.98 and lowest on the general farms with the least livestock, where it averaged $6.45. The land improvement cost per acre and the building cost per acre was lowest on the grain farms, where it averaged $.43 and $.61 respectively. Labor input per 100 crop acres was high on the dairy farms, where 21.4 months of labor were used, and low on the grain farms, where 12.2 months of labor were used.

Size of farm. When the farm records in Farming-Type Area 6 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on the smaller ones. After deductions were made for farm business expenditures and interest on the investment, labor and management earnings on the 21 largest farms averaged $2,424 contrasted with $1,394 on the 30 smallest farms. The smaller farms had higher investments per acre for land, land improvements, buildings, machinery, and total investment. The rate earned on investment did not differ significantly for the various size groups.

The smaller farms were operated more intensively than were the larger ones. This variation was indicated by the higher gross and net earnings per acre, by the larger proportion of total land tillable, by the higher land values, by the larger amount of feed fed per acre to productive livestock, and by higher corn yields.

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 6, 1942

| | Total acres in farm | | | | |
|---|---|---|---|---|---|
| Item | Less than 121 | 121 to 200 | 201 to 280 | 281 to 360 | 361 or more |
| Number of farms - - - - - - - - - - - | 30 | 145 | 86 | 38 | 21 |
| Acres per farm- - - - - - - - - - - - | 102 | 166 | 236 | 319 | 464 |
| Investments | | | | | |
| Total per farm- - - - - - - - - - - | $12 207 | $16 852 | $20 720 | $24 848 | $31 007 |
| Total per acre- - - - - - - - - - - | 119 | 102 | 88 | 78 | 67 |
| Land per acre - - - - - - - - - - - | 56 | 51 | 45 | 42 | 38 |
| Land improvements per acre- - - - | 2.82 | 2.33 | 2.11 | 1.78 | 1.95 |
| Buildings per acre- - - - - - - - | 17.60 | 13.77 | 11.48 | 9.98 | 7.61 |
| Machinery per acre- - - - - - - - | 14.87 | 11.59 | 9.96 | 8.06 | 6.12 |
| Earnings | | | | | |
| Per farm | | | | | |
| Gross earnings- - - - - - - - - | $ 3 351 | $ 4 671 | $ 5 684 | $ 5 899 | $ 7 405 |
| Gross expenses- - - - - - - - - | 2 055 | 2 640 | 3 187 | 3 540 | 4 109 |
| Net earnings- - - - - - - - - - | $ 1 296 | $ 2 031 | $ 2 497 | $ 2 359 | $ 3 296 |
| Per acre | | | | | |
| Gross earnings- - - - - - - - - | $ 32.78 | $ 28.20 | $ 24.14 | $ 18.48 | $ 15.95 |
| Gross expenses- - - - - - - - - | 20.10 | 15.94 | 13.54 | 11.09 | 8.85 |
| Net earnings- - - - - - - - - - | $ 12.68 | $ 12.26 | $ 10.60 | $ 7.39 | $ 7.10 |
| Rate earned on investment - - - - | 10.6% | 12.1% | 12.0% | 9.5% | 10.6% |
| Labor and management earnings - - | $ 1 394 | $ 1 916 | $ 2 173 | $ 1 816 | $ 2 424 |
| Size and Intensity | | | | | |
| Percent of land area tillable - - | 85.0 | 83.8 | 83.0 | 76.7 | 70.9 |
| Percent tillable land in grain- - | 56.2 | 57.6 | 55.7 | 55.4 | 45.6 |
| Percent in hay and pasture- - - - | 39.5 | 37.1 | 37.2 | 34.4 | 39.4 |
| Feed fed per acre to prod. l.s. - | $ 15.65 | $ 12.96 | $ 11.08 | $ 9.15 | $ 7.49 |
| Percent of income from prod. l.s. | 87.4 | 84.7 | 81.3 | 86.9 | 83.4 |
| Percent of income from crops- - - | -- | 3.0 | 6.9 | .9 | 6.5 |
| Months of labor per 100 crop A. - | 25.7 | 20.3 | 17.5 | 15.7 | 15.4 |
| Total months of labor - - - - - - | 17.7 | 21.5 | 24.6 | 27.1 | 32.0 |
| Number of work horses - - - - - - | 2.8 | 3.5 | 3.6 | 4.2 | 4.6 |
| Crop Yields per Acre | | | | | |
| Corn, bu. - - - - - - - - - - - - - | 47.7 | 45.4 | 43.3 | 34.5 | 44.5 |
| Wheat, bu.- - - - - - - - - - - - - | 14.2 | 14.1 | 14.4 | 13.9 | 11.8 |
| Livestock Returns | | | | | |
| Per $100 feed fed - - - - - - - - | $ 197 | $ 196 | $ 188 | $ 186 | $ 186 |
| Hog returns per litter- - - - - - | 169 | 204 | 190 | 191 | 228 |
| Dairy returns per cow - - - - - - | 168 | 157 | 152 | 148 | 145 |
| Expense Factors | | | | | |
| Labor cost per crop acre- - - - - | $ 16.47 | $ 13.00 | $ 11.39 | $ 10.10 | $ 9.45 |
| Horse and machinery cost per crop acre - - - - - - - - - - - - | 9.45 | 8.02 | 7.47 | 7.36 | 7.09 |
| Land improvements cost per acre - | .55 | .68 | .61 | .53 | .39 |
| Buildings cost per acre - - - - - | 1.15 | 1.11 | .95 | .64 | .63 |
| Land tax per acre - - - - - - - - | .96 | .81 | .74 | .65 | .56 |

Labor and horse and machinery expenses. Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases, but decrease as the size of farm increases. Therefore the efficiency of a farm in using labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 6, 1942

| Acres per farm | Feed fed per acre | | | Feed fed per acre | | |
|---|---|---|---|---|---|---|
| | Less than $9.00 | $9.00 to $15.99 | $16.00 or more | Less than $9.00 | $9.00 to $15.99 | $16.00 or more |
| | (labor cost per crop acre) | | | (horse and machinery cost per crop acre) | | |
| Less than 121 | $14.90 | $16.50 | $17.50 | $8.00 | $9.50 | $11.00 |
| 121 to 200 | 11.20 | 13.30 | 15.10 | 6.50 | 8.00 | 10.00 |
| 201 to 280 | 10.00 | 11.50 | 13.40 | 6.10 | 7.50 | 9.50 |
| 281 to 360 | 9.70 | 10.20 | 12.00 | 5.90 | 7.30 | 9.20 |
| 361 or more | 9.30 | 9.50 | 10.20 | 5.70 | 7.10 | 9.00 |

## Producing for War Needs

In any given period gross receipts for hogs, cattle, dairy sales, eggs, and grains are relative measures of production (Table 7). Therefore the account keeper should use these standards to compare his own production with that of other account keepers. He should then adopt on his farm the kind of farm plan and the management practices that will make the best possible use of land, buildings, livestock, labor, machinery, and other resources for the duration of the war. Thus he will have more products to put on the nation's markets and so will be making the greatest possible contribution to the war effort.

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 6, 1939-1942

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1942 | 1941 | 1940 | 1939 |
| Number of farms | -- | 320 | 307 | 255 | 271 |
| Capital Investments | | | | | |
| Land | $ | $ 9 899 | $ 9 811 | $ 9 614 | $ 9 851 |
| Land improvements | | 472 | 2 830 | 2 725 | 2 690 |
| Farm buildings | | 2 539 | | | |
| Horses | | 308 | 362 | 423 | 451 |
| Productive livestock: Cattle | | 1 447 | 1 325 | 1 148 | 972 |
| Hogs | | 392 | 244 | 270 | 279 |
| Sheep | | 60 | 55 | 45 | 37 |
| Poultry | | 167 | 133 | 133 | 155 |
| Total productive livestock | ( ) | (2 066) | (1 757) | (1 596) | (1 443) |
| Feed, grain, and seeds | | 1 915 | 1 742 | 1 594 | 1 302 |
| Machinery and equipment | | 1 893 | 1 686 | 1 588 | 1 508 |
| Automobile (farm share) | | 242 | 175 | 144 | 143 |
| Total | $ | $19 334 | $18 363 | $17 684 | $17 388 |
| Receipts and Net Increases | | | | | |
| Horses | $ | $ -- | $ -- | $ -- | $ -- |
| Productive livestock: Cattle | | 726 | 644 | 487 | 389 |
| Dairy sales | | 1 480 | 1 233 | 915 | 841 |
| Hogs | | 1 451 | 993 | 473 | 524 |
| Sheep | | 72 | 68 | 49 | 31 |
| Poultry | | 123 | 106 | 84 | 73 |
| Egg sales | | 471 | 317 | 236 | 225 |
| Total productive livestock | ( ) | (4 323) | (3 361) | (2 244) | (2 083) |
| Farm products used in household | | 349 | 282 | 250 | 264 |
| Feed, grain, and seeds | | 202 | 528 | 586 | 688 |
| AAA receipts | | 235 | 131 | 314 | 229 |
| Labor off farm | | 23 | 32 | 38 | 50 |
| Miscellaneous | | 8 | 15 | 26 | 15 |
| Total | $ | $ 5 140 | $ 4 349 | $ 3 458 | $ 3 329 |
| Expenses and Net Decreases | | | | | |
| Land improvements | $ | $ 127 | $ 202 | $ 181 | $ 157 |
| Farm buildings | | 198 | | | |
| Horses | | 3 | 28 | 24 | 4 |
| Productive livestock | | -- | -- | -- | -- |
| Feed, grain, and seeds | | -- | -- | -- | -- |
| Machinery and equipment | | 682 | 504 | 388 | 344 |
| Automobile (farm share) | | 118 | 97 | 79 | 73 |
| Livestock expense | | 64 | 45 | 39 | 42 |
| Hired labor | | 348 | 275 | 236 | 229 |
| Taxes | | 186 | 181 | 167 | 163 |
| Miscellaneous | | 31 | 26 | 23 | 23 |
| Total | $ | $ 1 757 | $ 1 358 | $ 1 137 | $ 1 035 |
| Receipts less expenses | $ | $ 3 383 | $ 2 991 | $ 2 321 | $ 2 294 |
| Family labor | | 459 | 316 | 255 | 258 |
| Returns for labor, capital, mgt. | $ | $ 2 924 | $ 2 675 | $ 2 066 | $ 2 036 |
| Operator's labor | | 715 | 488 | 434 | 430 |
| Net earnings per farm | $ | $ 2 209 | $ 2 187 | $ 1 632 | $ 1 606 |
| Rate Earned on Investment | % | 11.4% | 11.9% | 9.2% | 9.2% |
| Interest on investment | $ | $ 967 | $ 918 | $ 884 | $ 869 |
| Labor and Management Earnings | | 1 957 | 1 757 | 1 182 | 1 167 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United States Department of Agriculture cooperating. H. P. RUSK, *Director*. Acts approved by Congress May 8 and June 30, 1914.

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## FARMING-TYPE AREA SEVEN
## South Central Mixed Farming Area

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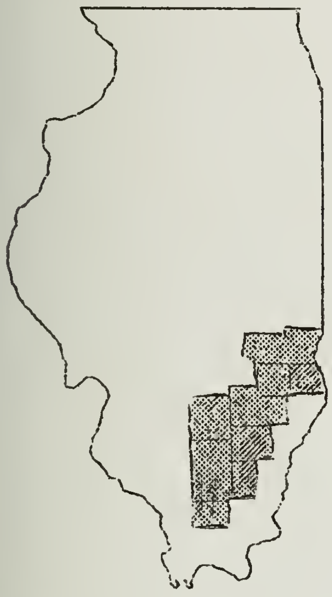
Annual Farm Business Report

# ON ONE HUNDRED FORTY-SEVEN FARMS IN FARMING-TYPE AREA 7, 1942

By P. E. Johnston, J. B. Cunningham, and L. F. Stice[1]

War adjustments. Farm account cooperators in Farming-Type Area 7 responded to the war demand for increased production in 1942 over that of 1941 by increasing grain acreage and numbers of hens.

| Item | 1941 | 1942 | Change |
|---|---|---|---|
| Acres per farm | 247 | 251 | 4 acres increase |
| Acres of grain crops | 82 | 90 | 8 acres increase |
| Number of dairy cows | 5 | 5 | None |
| Number of pigs weaned | 67 | 64 | 3 pigs decrease |
| Number of hens | 130 | 150 | 20 hens increase |
| Total months of labor | 19 | 19 | None |
| Value of machinery (beginning of year) | $1 300 | $1 382 | $82 increase |
| Tons of grain produced | 64 | 60 | 4 tons decrease |
| Measure of volume of production for livestock and livestock products[2] | $2 746 | $2 799 | $53 increase |



▨ Farming-Type Area 7
Mixed Farming

The cooperators kept the same number of dairy cows in 1942 as in 1941, weaned fewer pigs, used the same amount of labor, but increased machinery investments.

Grain produced per farm decreased from 64 tons in 1941 to 60 tons in 1942. This decrease was due to unfavorable weather which resulted in a reduction in yield per acre for corn, oats, and wheat. Livestock production, as measured by receipts and net increases for livestock and livestock products which were valued at the same price for 1942 as for 1941, showed an insignificant increase.

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[1] W. N. Thompson supervised the closing of the farm accounts and the preparation of the tables used in this report. The project was conducted in cooperation with the county farm bureaus and was supervised by the following farm advisers: D. O. Lee, Jefferson; T. E. Myers, Clark; F. J. Blackburn, Marion; W. C. Anderson, Franklin-Hamilton; R. E. Apple, Jasper; Halsey L. Miles, Crawford; E. J. Barnes, Richland; R. K. Wise, Clay; and L. B. Broom, Williamson.

[2] For 1941 actual receipts and net increases are used; for 1942 receipts and net increases are adjusted to the 1941 price level by dividing the 1942 receipts and net increases by the ratio of 1942 to 1941 Illinois farm price for each class of livestock and livestock product.

## TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 7, 1939-1942

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1942 | 1941 | 1940 | 1939 |
| Inventory Changes | | | | | |
| Land improvements - - - - - - - - - | $ | $ 84 | $) 61 | $ 151 | $ 56 |
| Farm buildings- - - - - - - - - - - | | -8 | ) | | |
| Horses- - - - - - - - - - - - - - - | | -2 | -60 | -62 | 4 |
| Productive livestock- - - - - - - | | 473 | 385 | 71 | 117 |
| Feed, grain, and seeds- - - - - - | | 240 | 353 | 137 | 138 |
| Machinery and equipment - - - - - | | 117 | 99 | 72 | 72 |
| Automobile (farm share) - - - - - | | -20 | 27 | 15 | 20 |
| Total - - - - - - - - - - - - - - - | $ | $ 884 | $ 865 | $ 384 | $ 407 |
| Cash Receipts | | | | | |
| Land improvements - - - - - - - - - | $ | $ 1 | $) 2 | $ 14 | $ 2 |
| Farm buildings- - - - - - - - - - - | | 1 | ) | | |
| Horses- - - - - - - - - - - - - - - | | 38 | 64 | 75 | 65 |
| Productive livestock: Cattle- - - | | 1 081 | 729 | 594 | 632 |
| Dairy sales | | 381 | 370 | 290 | 316 |
| Hogs- - - - | | 1 739 | 1 095 | 692 | 694 |
| Sheep - - - | | 161 | 124 | 110 | 57 |
| Poultry - - | | 148 | 114 | 104 | 101 |
| Egg sales - | | 375 | 262 | 230 | 207 |
| Total productive livestock- - - - | ( ) | (3 885) | (2 694) | (2 020) | (2 007) |
| Feed, grain, and seeds- - - - - - | | 840 | 763 | 530 | 495 |
| Machinery and equipment - - - - - | | 149 | 162 | 127 | 109 |
| Automobile (farm share) - - - - - | | 24 | 45 | 41 | 27 |
| AAA receipts- - - - - - - - - - - | | 188 | 168 | 226 | 179 |
| Labor off farm- - - - - - - - - - | | 23 | 34 | 45 | 39 |
| Miscellaneous - - - - - - - - - - | | 3 | 20 | 14 | 17 |
| Total - - - - - - - - - - - - - - - | $ | $ 5 152 | $ 3 952 | $ 3 092 | $ 2 940 |
| Cash Expenses | | | | | |
| Land improvements - - - - - - - - - | $ | $ 256 | $) 258 | $ 311 | $ 215 |
| Farm buildings- - - - - - - - - - - | | 131 | ) | | |
| Horses- - - - - - - - - - - - - - - | | 31 | 17 | 33 | 49 |
| Productive livestock: Cattle- - - | | 411 | 217 | 178 | 255 |
| Hogs- - - - | | 141 | 64 | 39 | 58 |
| Sheep - - - | | 72 | 21 | 14 | 16 |
| Poultry - - | | 44 | 31 | 24 | 24 |
| Total productive livestock- - - - | ( ) | ( 668) | ( 333) | ( 255) | ( 353) |
| Feed and grain purchases- - - - - | | 766 | 487 | 352 | 335 |
| Crop and sealing expense- - - - - | | 120 | 143 | 102 | 84 |
| Machinery and equipment - - - - - | | 826 | 676 | 498 | 474 |
| Automobile (farm share) - - - - - | | 128 | 170 | 125 | 123 |
| Livestock expense - - - - - - - - | | 49 | 27 | 24 | 28 |
| Hired labor - - - - - - - - - - - | | 276 | 239 | 161 | 160 |
| Taxes - - - - - - - - - - - - - - - | | 168 | 164 | 148 | 132 |
| Miscellaneous - - - - - - - - - - | | 26 | 22 | 16 | 18 |
| Total - - - - - - - - - - - - - - - | $ | $ 3 445 | $ 2 536 | $ 2 025 | $ 1 971 |
| Summary | | | | | |
| Total inventory change- - - - - - | $ | $ 884 | $ 865 | $ 384 | $ 407 |
| Cash balance- - - - - - - - - - - | | 1 707 | 1 416 | 1 067 | 969 |
| Farm products used in household - | | 334 | 292 | 244 | 254 |
| Receipts less expenses- - - - - - | $ | $ 2 925 | $ 2 573 | $ 1 695 | $ 1 630 |
| Total unpaid labor- - - - - - - - | | 853 | 678 | 618 | 654 |
| Net earnings per farm - - - - - - | $ | $ 2 072 | $ 1 895 | $ 1 077 | $ 976 |
| Net earnings per acre - - - - - - | $ | $ 8.24 | $ 7.68 | $ 4.35 | $ 4.30 |

Net earnings. The net earnings per farm on an inventory basis were higher in 1942 than in 1941; the average was $2,072 in 1942 compared with $1,895 in 1941. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding to the cash balance the value of farm products used in the household and the inventory increases and by subtracting from the resulting total the value of unpaid labor. Therefore this figure indicates the earning power of the business and determines the real value of the farm and its equipment. The net earnings per acre averaged $8.24 in 1942, $7.68 in 1941, $4.35 in 1940, and $4.30 in 1939.

Inventory changes. The year 1942 was the tenth consecutive year in which inventories were increased. The increases for the past four years ranged from $884 in 1942 to $384 in 1940 (Table 1). In 1942 the largest increases were for livestock and feed, grain, and seeds. The average amounts of grain on hand in Area 7 at the two inventory periods were:

| Crop | Beginning of year (bushels) | End of year (bushels) |
|---|---|---|
| Corn | 1,042 | 1,106 |
| Oats | 219 | 210 |
| Wheat | 67 | 57 |
| Soybeans | 58 | 87 |

Cash receipts and cash expenses. In 1942 cash receipts exceeded cash expenses by $1,707, the largest margin for any year in the past four. The cash balance--the difference between cash receipts and expenses--is the amount of money which is available for family living expenses, interest, debt payments, and savings.

Unpaid family labor. Although there was no appreciable change in the amount of family labor available, the total valuation of unpaid labor was higher for 1942 than for any other year in the past four. This increase resulted from the fact that the physical labor of the operator and other members of the family was valued at $55 per month in 1942, at $45 per month in 1941, and at $40 per month in 1940 and 1939.

Variation in farm earnings. A wide variation was found in earnings on the farms in Area 7. For example, 28 farms earned less than five percent on their investment; but 39 farms earned 20 percent or more. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had a deficit of $49 in labor and management earnings contrasted with $3,571 for labor and management for the latter group. The variation in earnings for all the records in the area was as follows:

| Rate earned on investment (percent) | Number of farms | Average rate earned (percent) | Acres per farm | Capital invested per farm | Gross earnings per farm | Net earnings per farm | Labor and management earnings |
|---|---|---|---|---|---|---|---|
| Less than 5.00 | 28 | .9 | 243 | $15 178 | $3 236 | $ 144 | $ -49 |
| 5.00 to 9.99 | 34 | 7.3 | 253 | 14 531 | 3 531 | 1 059 | 883 |
| 10.00 to 14.99 | 17 | 12.1 | 264 | 17 087 | 5 193 | 2 069 | 1 820 |
| 15.00 to 19.99 | 29 | 17.1 | 285 | 17 115 | 5 713 | 2 935 | 2 719 |
| 20.00 or more | 39 | 25.0 | 225 | 14 768 | 6 345 | 3 699 | 3 571 |

TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 7, 1942

| Item | Your farm | Standards for your farm | Average of all farms |
|---|---|---|---|
| Rate earned on investment | % | 13.3% | 13.3% |
| Number of farms | -- | -- | 147 |
| Acres in farm | | 251 | 251 |
| Acres tillable | | 211 | 211 |
| Acres in crops | | 137 | 137 |
| Gross earnings per acre | $ | $ a/ | $ 17.65 |
| Gross expenses per acre | | | 9.41 |
| Net earnings per acre | $ | $ | $ 8.24 |
| Investments | | | |
| Value of land per acre | $ | $ 32 | $ 32 |
| Value of improved land per acre | | a/ | 34 |
| Value of buildings per acre | | e/ | 7 |
| Total investment per acre | | 62 | 62 |
| Land Use | | | |
| Percent of land area tillable | | a/ | 83.8 |
| Percent of tillable land in: | | | |
| Corn | | | 19.5 |
| Oats | | | 6.8 |
| Wheat | | | 7.5 |
| Soybeans | | | 6.6 |
| Other crops | | | 13.9 |
| Legume hay and pasture | | | 21.1 |
| Nonlegume hay and pasture | | | 24.6 |
| Crop Yields | | | |
| Corn | | b/ | 37.5 |
| Oats | | | 22.4 |
| Wheat | | | 12.9 |
| Soybeans | | 13.8 | 13.8 |
| Livestock Factors | | | |
| Value of feed fed to prod. l.s. | $ | $ 2 045 | $ 2 045 |
| Feed fed per acre to prod. l.s. | | c/ | 8.13 |
| Returns per $100 worth of feed fed | | | 193 |
| Poultry returns per hen | | 3.89 | 3.89 |
| Number of litters farrowed | | 9.7 | 9.7 |
| Number of pigs weaned per litter | | 6.6 | 6.6 |
| Returns per litter farrowed | $ | $ 200 | $ 200 |
| Average number of cows milked | | 5.0 | 5.0 |
| Dairy returns per cow milked | $ | $ c/ | $ 97 |
| Expense Factors | | | |
| Horse and machinery cost per crop acre | $ | $ d/ | $ 5.80 |
| Labor cost per crop acre | | | 8.07 |
| Total months of labor | | e/ | 19.4 |
| Number of work horses | | | 2.7 |
| Land improvements cost per acre | $ | $ .68 | $ .68 |
| Buildings cost per acre | | e/ | .55 |
| Land tax per acre | | a/ | .57 |

Source of Standards:
a/ Table 3, value of improved land.
b/ Fig. 1, value of improved land.
c/ Table 4, source of income.
d/ Table 6, size of farm and value of feed fed per acre.
e/ Table 5, size of farm.

# CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

## Accounting Farms in Farming-Type Area 7, 1942

The numbers above the double line are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

| | | | Factors that affect the gross earnings | | | | | | | | | | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Crop yields | | | | | | | | | | | |
| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Percent of tillable land in legume hay and pasture | Corn, bu. | Oats, bu. | Wheat, bu. | Feed fed per acre to prod. l.s. | Returns per $100 feed fed | Poultry returns per hen | Hog returns per litter farrowed | Dairy returns per cow milked | Gross expense per acre | Horse and machinery cost per crop acre | Labor cost per crop acre | Buildings cost per acre |
| 28.3 | 501 | | | | | | | | 5.39 | 250 | | | | | |
| 25.3 | 451 | | | | | | | | 5.09 | 240 | | | | | |
| 22.3 | 401 | | | | | | | | 4.79 | 230 | | | | | |
| 19.3 | 351 | | | | | | | | 4.49 | 220 | | | | | |
| 16.3 | 301 | | | | | | | | 4.19 | 210 | | | | | |
| 13.3 | 251 | | | | | | | | 3.89 | 200 | | | | | |
| 10.3 | 201 | | | | | | | | 3.59 | 190 | | | | | |
| 7.3 | 151 | | | | | | | | 3.29 | 180 | | | | | |
| 4.3 | 101 | | | | | | | | 2.99 | 170 | | | | | |
| 1.3 | 51 | | | | | | | | 2.69 | 160 | | | | | |
| -- | -- | | | | | | | | 2.39 | 150 | | | | | |
| 3% | 50 | $3 | 3% | 4 | 4 | 2 | $2 | $20 | $.30 | $10 | $10 | $1 | $.50 | $1 | $.20 |

*Each space between lines represents the values indicated at bottom of each column.

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS
RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 7, 1942

| Item | Value of improved land | | | |
|---|---|---|---|---|
| | Less than $23 | $23 to $32 | $33 to $42 | $43 or more |
| Average value of improved land- - - | $20 | $28 | $37 | $51 |
| Number of farms - - - - - - - - - - - | 21 | 52 | 44 | 30 |
| Acres per farm- - - - - - - - - - - - | 263 | 275 | 216 | 254 |
| Percent of land area tillable - - - | 84.3 | 84.1 | 85.3 | 81.0 |
| Percent of tillable land in: | | | | |
| Corn- - - - - - - - - - - - - - - - - | 17.5 | 17.3 | 20.9 | 23.8 |
| Oats- - - - - - - - - - - - - - - - - | 7.0 | 6.3 | 8.4 | 5.3 |
| Wheat - - - - - - - - - - - - - - - - | 6.1 | 5.3 | 7.3 | 12.9 |
| Soybeans- - - - - - - - - - - - - - - | 5.2 | 4.1 | 8.8 | 9.9 |
| Other crops - - - - - - - - - - - - | 14.1 | 17.6 | 11.7 | 9.9 |
| Legume hay and pasture- - - - - - | 14.8 | 24.4 | 21.1 | 22.7 |
| Nonlegume hay and pasture - - - - | 35.3 | 25.0 | 21.8 | 15.5 |
| Gross earnings per acre - - - - - - | $12.69 | $15.58 | $19.41 | $23.51 |
| Gross expenses per acre - - - - - - | 7.40 | 9.21 | 10.19 | 10.83 |
| Net earnings per acre - - - - - - - | $ 5.29 | $ 6.37 | $ 9.22 | $12.68 |
| Land tax per acre - - - - - - - - - | $ .51 | $ .51 | $ .60 | $ .68 |

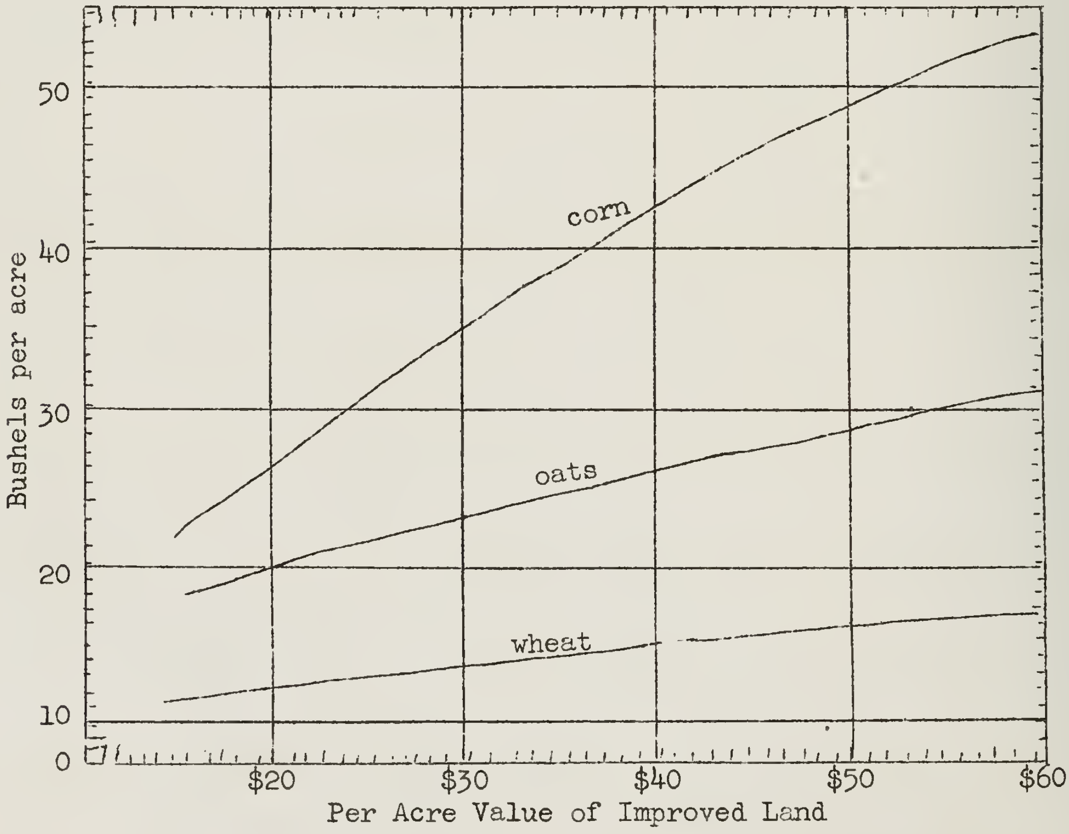

Fig. 1.--Average yields of corn, oats, and wheat with varying values of improved land.

## Explanation of Tables

Variable standards are used in analyzing the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per $100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farm" (Table 2) are taken from Tables 3 to 6 and from Figure 1 as follows:

Table 3 - Value of improved land.
  Gross earnings, gross expenses, and net earnings per acre.
  Value of improved land per acre.
  All items in the land-use section.
  Land tax per acre.
Figure 1 - Value of improved land.
  Yields for corn, oats, and wheat.
Table 4 - Source of income.
  Feed fed per acre to productive livestock.
  Returns per $100 worth of feed fed.
  Dairy returns per cow.
Table 5 - Size of farm.
  Value of buildings per acre.
  Total months of labor.
  Number of work horses.
  Buildings cost per acre.
Table 6 - Size of farm and amount of feed fed per acre.
  Horse and machinery cost per crop acre.
  Labor cost per crop acre.

The terms used in the tables are the same as the terms used in the Illinois farm account book. For example, "improved land" is classified on Page 1 of the farm account book. It means crop land, tillable pasture, and land occupied by farmstead, roads, and lanes. Likewise, "crop acres" are listed on page 20 of the farm account book. They include all the tillable land on which a large amount of work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields. The percent of tillable land in grain crops increased as the value per acre for improved land increased (Table 3). Likewise, the earnings per acre and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, and wheat increased as the land value increased (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, crop yields, and earnings per acre were high or low for 1942 in comparison with the average of other farms in his area having about the same value of improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 7, 1942

| Item | Source of income | | | | | |
|---|---|---|---|---|---|---|
| | | | | | General farms | |
| | Grain 40%+ | Dairy sales 40%+ | Hogs 40%+ | Cattle 40% + | L.S. 60%- | L.S. 60%+ |
| Number of farms - - - - - - - - - - | 6 | 6 | 50 | 5 | 16 | 6 |
| Percent of income from prod. l.s. | 35.4 | 89.0 | 90.0 | 86.8 | 52.9 | 82. |
| Percent of income from crops- - - | 57.2 | -- | -- | -- | 30.3 | 3. |
| Investments | | | | | | |
| Total per farm- - - - - - - - - | $19 755 | $12 940 | $16 492 | $21 674 | $11 377 | $15 16 |
| Total per acre- - - - - - - - - | 53 | 53 | 66 | 71 | 52 | 6 |
| Land per acre - - - - - - - - - - | 34 | 24 | 34 | 33 | 29 | 3 |
| Land improvements per acre- - - | .76 | 2.42 | 2.40 | 2.07 | 2.28 | 2.5 |
| Buildings per acre- - - - - - - | 3.62 | 6.80 | 7.40 | 9.87 | 5.61 | 6.7 |
| Machinery per acre- - - - - - - | 6.43 | 5.56 | 7.03 | 9.05 | 5.95 | 6.1 |
| Earnings | | | | | | |
| Per farm | | | | | | |
| Gross earnings- - - - - - - - | $ 7 156 | $ 4 481 | $ 5 374 | $ 4 883 | $ 3 492 | $ 3 98 |
| Gross expenses- - - - - - - - | 3 232 | 3 187 | 2 736 | 3 008 | 1 923 | 2 31 |
| Net earnings- - - - - - - - - | $ 3 924 | $ 1 294 | $ 2 638 | $ 1 875 | $ 1 569 | $ 1 67 |
| Per acre | | | | | | |
| Gross earnings- - - - - - - - | $ 19.14 | $ 18.27 | $ 21.59 | $ 15.94 | $ 16.04 | $ 16.1 |
| Gross expenses- - - - - - - - | 8.64 | 12.99 | 10.99 | 9.82 | 8.83 | 9.3 |
| Net earnings- - - - - - - - - | $ 10.50 | $ 5.28 | $ 10.60 | $ 6.12 | $ 7.21 | $ 6.7 |
| Rate earned on investment - - - | 19.9% | 10.0% | 16.0% | 8.6% | 13.8% | 11.0 |
| Labor and management earnings - | $ 3 532 | $ 1 138 | $ 2 417 | $ 1 430 | $ 1 642 | $ 1 49 |
| Size and Intensity | | | | | | |
| Acres per farm- - - - - - - - - | 374 | 245 | 249 | 306 | 218 | 24 |
| Percent of land area tillable - | 85.8 | 89.1 | 84.0 | 84.9 | 82.6 | 83. |
| Percent tillable land in grain- | 65.7 | 27.4 | 46.5 | 34.4 | 51.8 | 39. |
| Percent in hay and pasture- - - | 29.9 | 65.6 | 43.6 | 63.0 | 38.2 | 47. |
| Feed fed per acre to prod. l.s. | $ 4.02 | $ 7.70 | $ 11.02 | $ 7.35 | $ 4.66 | $ 7.3 |
| Months of labor per 100 crop A. | 9.9 | 18.9 | 14.0 | 18.1 | 12.4 | 14. |
| Total months of labor - - - - - | 25.2 | 23.3 | 18.7 | 22.4 | 17.2 | 19. |
| Crop Yields Per Acre | | | | | | |
| Corn, bu. - - - - - - - - - - - - | 48.2 | 21.3 | 42.3 | 36.3 | 33.8 | 33. |
| Wheat, bu.- - - - - - - - - - - - | 15.3 | 17.3 | 10.6 | 9.2 | 13.7 | 13. |
| Livestock Returns | | | | | | |
| Per $100 feed fed - - - - - - - | $ 191 | $ 224 | $ 185 | $ 200 | $ 209 | $ 19 |
| Hog returns per litter- - - - - | 160 | 178 | 211 | 152 | 171 | 19 |
| Dairy returns per cow - - - - - | 62 | 162 | 85 | 80 | 74 | 9 |
| Expense Factors | | | | | | |
| Labor cost per crop acre- - - - | $ 5.69 | $ 11.03 | $ 7.83 | $ 10.52 | $ 6.74 | $ 8.6 |
| Horse and machinery cost per crop acre - - - - - - - - - | 5.44 | 6.53 | 6.09 | 7.94 | 4.69 | 5.7 |
| Land improvements cost per acre | .40 | .41 | .74 | .68 | .56 | .7 |
| Buildings cost per acre - - - - | .34 | .60 | .60 | .63 | .43 | .5 |
| Land tax per acre - - - - - - - | .45 | .63 | .59 | .51 | .58 | .5 |

Source of income. The grouping of accounting farms according to source of income for 1942 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer, however, should use caution in interpreting the data in Table 4. For example, the fact that grain farms earned the largest rate on the investment for 1942 and that cattle farms earned the smallest does not mean that such a relationship will prevail over a long period of years. The relative profitableness of these enterprises in 1942 was due in part to conditions affecting price and production.

In comparing the returns on the various groups of farms per $100 worth of feed fed, the farmer should consider the fact that there is a wide variation in the necessary returns per $100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, $195; dairy cattle, $157; hogs, $127; and feeder cattle, $117.

Furthermore, in a comparison of crop yields for the various types of farming, the following items should be noted: (1) value of land per acre; (2) percent of land area tillable; (3) percent of land in grain; (4) feed fed per acre to productive livestock; and (5) land tax per acre.

Differences in expenses are significant for the six groups of farms. Labor input per 100 crop acres was highest on the dairy farms, where 18.9 months of labor were used, and lowest on the grain farms where 9.9 months of labor were used.

The labor cost per crop acre ranged from $5.69 on the grain farms to $11.03 on the dairy farms. The horse and machinery cost per crop acre was lowest on the grain farms and highest on the cattle farms. Land improvement and buildings cost per acre were also lowest on the grain farms.

Size of farm. When the farm records in Farming-Type Area 7 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on the smaller ones. After deductions were made for farm business expenditures and interest on the investment, labor and management earnings on the 41 largest farms averaged $2,238 contrasted with $1,291 for the 47 smallest farms. The smaller farms had higher investments per acre for land improvements, buildings, machinery, and total investment, indicating a higher capital input. The average rate earned on investment was highest for the farms ranging in size from 181 to 300 acres (Table 5).

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 7, 1942

| Item | Total acres in farm | | |
|---|---|---|---|
| | Less than 181 | 181 to 300 | 301 or more |
| Number of farms | 47 | 59 | 41 |
| Acres per farm | 130 | 238 | 409 |
| Investments | | | |
| Total per farm | $9 329 | $14 945 | $23 454 |
| Total per acre | 71 | 63 | 57 |
| Land per acre | 35 | 33 | 30 |
| Land improvements per acre | 2.97 | 2.30 | 2.17 |
| Buildings per acre | 8.54 | 6.71 | 6.24 |
| Machinery per acre | 7.37 | 6.99 | 5.82 |
| Earnings | | | |
| Per farm | | | |
| Gross earnings | $3 004 | $ 4 461 | $ 6 205 |
| Gross expenses | 1 781 | 2 208 | 3 422 |
| Net earnings | $1 223 | $ 2 253 | $ 2 783 |
| Per acre | | | |
| Gross earnings | $23.02 | $ 18.71 | $ 15.18 |
| Gross expenses | 13.65 | 9.26 | 8.37 |
| Net earnings | $ 9.37 | $ 9.45 | $ 6.81 |
| Rate earned on investment | 13.1% | 15.1% | 11.9% |
| Labor and management earnings | $1 291 | $ 2 124 | $ 2 238 |
| Size and Intensity | | | |
| Percent of land area tillable | 84.4 | 84.1 | 83.2 |
| Percent tillable land in grain | 45.7 | 44.9 | 42.6 |
| Percent in hay and pasture | 47.2 | 44.5 | 46.1 |
| Feed fed per acre to prod. l.s. | $10.43 | $ 8.30 | $ 7.16 |
| Percent of income from prod. l.s. | 84.5 | 82.3 | 81.2 |
| Percent of income from crops | -- | 5.2 | 8.4 |
| Months of labor per 100 crop A. | 19.6 | 14.1 | 12.1 |
| Total months of labor | 14.4 | 18.9 | 25.9 |
| Number of work horses | 2.2 | 2.9 | 3.2 |
| Crop Yields per Acre | | | |
| Corn, bu. | 35.5 | 38.7 | 37.2 |
| Wheat, bu. | 13.0 | 11.2 | 14.2 |
| Livestock Returns | | | |
| Per $100 feed fed | $ 203 | $ 199 | $ 182 |
| Hog returns per litter | 189 | 199 | 214 |
| Dairy returns per cow | 95 | 87 | 111 |
| Expense Factors | | | |
| Labor cost per crop acre | $11.25 | $ 7.85 | $ 7.02 |
| Horse and machinery cost per crop acre | 6.81 | 5.66 | 5.53 |
| Land improvements cost per acre | .75 | .59 | .73 |
| Buildings cost per acre | .77 | .52 | .49 |
| Land tax per acre | .63 | .58 | .54 |

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses. Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases but decrease as the size of farm increases. Therefore, the efficiency of a farm in using labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 7, 1942

| Acres per farm | Feed fed per acre | | | Feed fed per acre | | |
|---|---|---|---|---|---|---|
| | Less than $5.00 | $5.00 to $8.99 | $9.00 or more | Less than $5.00 | $5.00 to $8.99 | $9.00 or more |
| | (labor cost per crop acre) | | | (horse and machinery cost per crop acre) | | |
| Less than 181 | $10.70 | $11.20 | $11.70 | $6.00 | $6.40 | $7.70 |
| 181 to 300 | 7.00 | 8.20 | 8.40 | 5.00 | 5.90 | 6.10 |
| 301 or more | 5.60 | 7.20 | 7.80 | 4.50 | 5.30 | 5.80 |

## Producing for War Needs

In any given period gross receipts for hogs, cattle, dairy sales, eggs, and grains are relative measures of production (Table 7). Therefore the account keeper should use these standards to compare his own production with that of other account keepers. He should then adopt on his farm the kind of farm plan and the management practices that will make the best possible use of land, buildings, livestock, labor, machinery, and other resources for the duration of the war. Thus he will have more products to put on the nation's markets and will be making the greatest possible contribution to the war effort.

## TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 7, 1939-1942

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1942 | 1941 | 1940 | 1939 |
| Number of farms | -- | 147 | 121 | 98 | 103 |
| Capital Investments | | | | | |
| Land | $ | $ 8 091 | $ 7 433 | $ 7 504 | $ 7 681 |
| Land improvements | | 592 | 2 251 | 2 196 | 2 118 |
| Farm buildings | | 1 711 | | | |
| Horses | | 211 | 280 | 370 | 384 |
| Productive livestock: Cattle | | 1 178 | 1 069 | 978 | 868 |
| Hogs | | 458 | 287 | 304 | 319 |
| Sheep | | 106 | 98 | 107 | 64 |
| Poultry | | 149 | 117 | 129 | 127 |
| Total productive livestock | ( ) | (1 891) | (1 571) | (1 518) | (1 378 |
| Feed, grain, and seeds | | 1 386 | 1 124 | 1 127 | 1 048 |
| Machinery and equipment | | 1 382 | 1 300 | 1 193 | 1 081 |
| Automobile (farm share) | | 258 | 170 | 127 | 116 |
| Total | $ | $15 522 | $ 14 129 | $ 14 035 | $13 806 |
| Receipts and Net Increases | | | | | |
| Horses | $ | $ 5 | $ -- | $ -- | $ 20 |
| Productive livestock: Cattle | | 874 | 668 | 502 | 491 |
| Dairy sales | | 381 | 370 | 290 | 316 |
| Hogs | | 1 797 | 1 220 | 635 | 623 |
| Sheep | | 129 | 111 | 98 | 53 |
| Poultry | | 134 | 115 | 81 | 81 |
| Egg sales | | 375 | 262 | 230 | 207 |
| Total productive livestock | ( ) | (3 690) | (2 746) | (1 836) | (1 771 |
| Farm products used in household | | 334 | 292 | 244 | 254 |
| Feed, grain, and seeds | | 194 | 486 | 213 | 214 |
| AAA receipts | | 188 | 168 | 226 | 179 |
| Labor off farm | | 23 | 34 | 45 | 39 |
| Miscellaneous | | 3 | 20 | 14 | 17 |
| Total | $ | $ 4 437 | $ 3 746 | $ 2 578 | $ 2 494 |
| Expenses and Net Decreases | | | | | |
| Land improvements | $ | $ 171 | $ 195 | $ 146 | $ 157 |
| Farm buildings | | 138 | | | |
| Horses | | -- | 13 | 20 | -- |
| Productive livestock | | -- | -- | -- | -- |
| Feed, grain, and seeds | | -- | -- | -- | -- |
| Machinery and equipment | | 560 | 415 | 299 | 293 |
| Automobile (farm share) | | 124 | 98 | 69 | 76 |
| Livestock expense | | 49 | 27 | 24 | 28 |
| Hired labor | | 276 | 239 | 161 | 160 |
| Taxes | | 168 | 164 | 148 | 132 |
| Miscellaneous | | 26 | 22 | 16 | 18 |
| Total | $ | $ 1 512 | $ 1 173 | $ 883 | $ 864 |
| Receipts less expenses | $ | $ 2 925 | $ 2 573 | $ 1 695 | $ 1 630 |
| Family labor | | 260 | 211 | 216 | 228 |
| Returns for labor, capital, mgt. | $ | $ 2 665 | $ 2 362 | $ 1 479 | $ 1 402 |
| Operator's labor | | 593 | 467 | 402 | 426 |
| Net earnings per farm | $ | $ 2 072 | $ 1 895 | $ 1 077 | $ 976 |
| Rate Earned on Investment | % | 13.3% | 13.4% | 7.7% | 7.1% |
| Interest on investment | $ | $ 776 | $ 706 | $ 702 | $ 691 |
| Labor and Management Earnings | | 1 889 | 1 656 | 777 | 711 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United States Department of Agriculture cooperating. H. P. RUSK, *Director*. Acts approved by Congress May 8 and June 30, 1914.

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# FARM BUSINESS REPORT . . . 1942

Beef cattle are adapted to the available land, labor, and equipment found on many farms. This is especially true when maximum use is made of roughages.

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## FARMING-TYPE AREA EIGHT
## Wabash Valley Grain and Livestock Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

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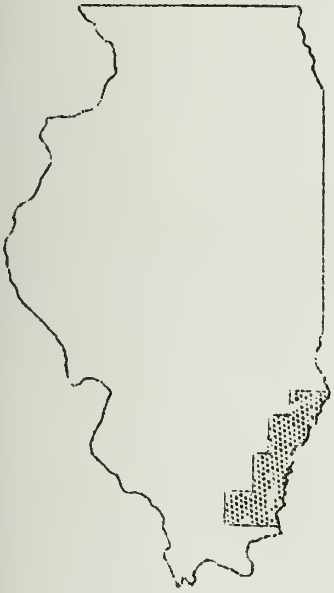
# Annual Farm Business Report

# ON NINETY-TWO FARMS IN FARMING-TYPE AREA 8, 1942

By P. E. Johnston, J. B. Cunningham, and J. E. Wills[1]

War adjustments. Farm account cooperators in Farming-Type Area 8 responded to the war demand for increased production in 1942 over that of 1941 by increasing grain acreage 10 percent; number of pigs weaned, 10 percent; and number of hens, 20 percent.

| Item | 1941 | 1942 | Change |
|---|---|---|---|
| Acres per farm | 221 | 218 | 3 acres decrease |
| Acres of grain crops | 96 | 106 | 10 acres (10%) increase |
| Number of dairy cows | 3 | 3 | None |
| Number of pigs weaned | 68 | 75 | 7 pigs (10%) increase |
| Number of hens | 142 | 171 | 29 hens (20%) increase |
| Total months of labor | 19 | 20 | 1 month increase |
| Value of machinery (beginning of year) | $1 205 | $1 390 | $185 increase |
| Tons of grain produced | 92 | 90 | 2 tons (2%) decrease |
| Measure of volume of production for livestock and livestock products[2] | $2 655 | $2 822 | $167 (6%) increase |



▨ Farming-Type Area 8
Grain and Livestock

The cooperators kept the same number of dairy cows in 1942 as in 1941, used more labor, and increased machinery investments.

Total grain production per farm decreased from 92 tons in 1941 to 90 tons in 1942, a decrease of 2 tons or about 2 percent. This decrease was due principally to lower wheat and oat yields in 1942.

Livestock production, as measured by receipts and net increases of livestock and livestock products valued at the same price for 1942 as for 1941, increased about 6 percent.

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[1] W. N. Thompson supervised the closing of the farm accounts and the preparation of the tables used in this report. The project was conducted in cooperation with the county farm bureaus and was supervised by the following farm advisers: W. D. Murphy, Edwards; Lucien Wise, Gallatin; H. C. Wheeler, Lawrence; Thurman Wright, White; and H. H. Lett, Wabash.

[2] The 1941 actual receipts and net increases were used, for 1942 receipts and net increases were adjusted to the 1941 price level by dividing the 1942 receipts and net increases by the ratio of 1942 to 1941 Illinois farm prices for each class of livestock or livestock product.

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 8, 1939-1942

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1942 | 1941 | 1940 | 1939 |
| Inventory Changes | | | | | |
| Land improvements - - - - - - - - - | $ | $ 64 | $) 69 | $ 15 | $ 47 |
| Farm buildings- - - - - - - - - - - | | 8 | ) | | |
| Horses- - - - - - - - - - - - - - - | | -12 | -36 | -42 | -29 |
| Productive livestock- - - - - - - | | 554 | 512 | 59 | 165 |
| Feed, grain, and seeds- - - - - - | | 379 | 496 | 360 | -43 |
| Machinery and equipment - - - - - | | 144 | 140 | 64 | 42 |
| Automobile (farm share) - - - - - | | -31 | 60 | 21 | 3 |
| Total - - - - - - - - - - - - - - - | $ | $1 106 | $1 241 | $ 477 | $ 185 |
| Cash Receipts | | | | | |
| Land improvements - - - - - - - - - | $ | $ 1 | $) 8 | $ 8 | $ 4 |
| Farm buildings- - - - - - - - - - - | | 13 | ) | | |
| Horses- - - - - - - - - - - - - - - | | 46 | 33 | 39 | 50 |
| Productive livestock: Cattle- - - | | 1 080 | 776 | 646 | 558 |
| Dairy sales | | 241 | 245 | 161 | 149 |
| Hogs- - - - | | 2 005 | 1 164 | 686 | 681 |
| Sheep - - - | | 102 | 87 | 67 | 65 |
| Poultry - - | | 110 | 92 | 74 | 83 |
| Egg sales - | | 467 | 282 | 206 | 195 |
| Total productive livestock- - - - | ( ) | (4 005) | (2 646) | (1 840) | (1 731) |
| Feed, grain, and seeds- - - - - - | | 1 430 | 1 195 | 1 062 | 1 111 |
| Machinery and equipment - - - - - | | 216 | 158 | 166 | 132 |
| Automobile (farm share) - - - - - | | 14 | 76 | 21 | 34 |
| AAA receipts- - - - - - - - - - - | | 307 | 184 | 339 | 338 |
| Labor off farm- - - - - - - - - - | | 27 | 29 | 31 | 31 |
| Miscellaneous - - - - - - - - - - - | | 2 | 7 | 14 | 13 |
| Total - - - - - - - - - - - - - - - | $ | $6 061 | $4 336 | $3 520 | $3 444 |
| Cash Expenses | | | | | |
| Land improvements - - - - - - - - - | $ | $ 238 | $) 272 | $ 203 | $ 164 |
| Farm buildings- - - - - - - - - - - | | 153 | ) | | |
| Horses- - - - - - - - - - - - - - - | | 35 | 18 | 17 | 27 |
| Productive livestock: Cattle- - - | | 573 | 388 | 273 | 330 |
| Hogs- - - - | | 138 | 77 | 47 | 68 |
| Sheep - - - | | 39 | 9 | 10 | 19 |
| Poultry - - | | 37 | 29 | 23 | 26 |
| Total productive livestock- - - - | ( ) | ( 787) | ( 503) | ( 353) | ( 443) |
| Feed and grain purchases- - - - - | | 684 | 489 | 371 | 264 |
| Crop and sealing expense- - - - - | | 138 | 139 | 116 | 96 |
| Machinery and equipment - - - - - | | 883 | 702 | 625 | 466 |
| Automobile (farm share) - - - - - | | 97 | 239 | 124 | 119 |
| Livestock expense - - - - - - - - | | 39 | 23 | 18 | 22 |
| Hired labor - - - - - - - - - - - - | | 333 | 237 | 187 | 172 |
| Taxes - - - - - - - - - - - - - - - | | 201 | 205 | 204 | 181 |
| Miscellaneous - - - - - - - - - - - | | 23 | 17 | 22 | 20 |
| Total - - - - - - - - - - - - - - - | $ | $3 611 | $2 844 | $2 240 | $1 974 |
| Summary | | | | | |
| Total inventory change- - - - - - | $ | $1 106 | $1 241 | $ 477 | $ 185 |
| Cash balance- - - - - - - - - - - - | | 2 450 | 1 492 | 1 280 | 1 470 |
| Farm products used in household - | | 317 | 267 | 211 | 239 |
| Receipts less expenses- - - - - - | $ | $3 873 | $3 000 | $1 968 | $1 894 |
| Total unpaid labor- - - - - - - - | | 815 | 646 | 574 | 558 |
| Net earnings per farm - - - - - - | $ | $3 058 | $2 354 | $1 394 | $1 336 |
| Net earnings per acre - - - - - - | $ | $14.05 | $10.65 | $ 6.15 | $ 6.14 |

Net earnings. The net earnings per farm on an inventory basis were higher in 1942 than in 1941; the average was $3,058 in 1942 compared with $2,354 in 1941. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding to the cash balance the value of farm products used in the household and the inventory increases and by subtracting from the resulting total the value of unpaid labor. Therefore this figure indicates the earning power of the business and determines the real value of the farm and its equipment. The average net earnings per acre were $14.05 in 1942, $10.65 in 1941, $6.15 in 1940, and $6.14 in 1939.

Inventory changes. The year 1942 was the seventh consecutive year in which inventories increased. The largest increase for the past four years was $1,241 in 1941 and the smallest was $185 in 1939 (Table 1). In 1942 the largest increases were for livestock and feed, grain, and seeds. The average amounts of grain on hand in Area 8 at the two inventory periods were:

| Crop | Beginning of year (bushels) | End of year (bushels) |
|---|---|---|
| Corn | 1 436 | 1 714 |
| Oats | 277 | 240 |
| Wheat | 172 | 76 |
| Soybeans | 77 | 144 |

Cash receipts and cash expenses. In 1942 cash receipts exceeded cash expenses by $2,450, the largest margin for any year during the past four. The cash balance--the difference between cash receipts and expenses--is the amount of money which is available for family living expenses, interest, debt payments, and savings.

Unpaid family labor. Although there was no appreciable change in the amount of family labor available, the total valuation of unpaid labor was higher for 1942 than for any other year in the past four. This increase resulted from the fact that the physical labor of the operator and other members of the family was valued at $55 per month in 1942, at $45 per month in 1941, and at $40 per month in 1940 and 1939.

Variation in farm earnings. A wide variation was found in earnings on the farms in Area 8. For example, 24 farms earned less than twelve percent on their investment, with an average of 7.8 percent; but 31 farms earned 20 percent or more, with an average of 25.0 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had $936 for labor and management earnings contrasted with $4,617 for the latter group. The variation in earnings for all the records in the area was as follows:

| Rate earned on investment (percent) | Number of farms | Average rate earned (percent) | Acres per farm | Capital invested per farm | Gross earnings per farm | Net earnings per farm | Labor and management earnings |
|---|---|---|---|---|---|---|---|
| Less than 12.00 | 24 | 7.8 | 214 | $15 395 | $3 605 | $1 195 | $ 936 |
| 12.00 to 19.99 | 37 | 16.8 | 196 | 15 772 | 4 942 | 2 642 | 2 463 |
| 20.00 or more | 31 | 25.0 | 246 | 20 016 | 7 738 | 4 995 | 4 617 |

TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 8, 1942

| Item | Your farm | Standards for your farm | Average of all farms |
|---|---|---|---|
| Rate earned on investment | ______% | 17.9% | 17.9% |
| Number of farms | -- | -- | 92 |
| Acres in farm | ______ | 218 | 218 |
| Acres tillable | ______ | 181 | 181 |
| Acres in crops | ______ | 132 | 132 |
| Gross earnings per acre | $______ | $______ a/ | $ 24.87 |
| Gross expenses per acre | ______ | ______ | 10.82 |
| Net earnings per acre | | | 14.05 |
| Investments | | | |
| Value of land per acre | $______ | $ 43 | $ 43 |
| Value of improved land per acre | ______ | ______ a/ | 46 |
| Value of buildings per acre | ______ | ______ e/ | 8 |
| Total investment per acre | | 79 | 79 |
| Land Use | | | |
| Percent of land area tillable | ______ | ______ a/ | 83.0 |
| Percent of tillable land in: | | | |
| Corn | ______ | ______ | 24.2 |
| Oats | ______ | ______ | 6.6 |
| Wheat | ______ | ______ | 13.6 |
| Soybeans | ______ | ______ | 11.5 |
| Other crops | ______ | ______ | 10.5 |
| Legume hay and pasture | ______ | ______ | 21.9 |
| Nonlegume hay and pasture | | | 11.7 |
| Crop Yields | | | |
| Corn, bu. | ______ | ______ b/ | 50.9 |
| Oats, bu. | ______ | ______ | 28.7 |
| Wheat, bu. | ______ | ______ | 15.6 |
| Soybeans, bu. | | 16.4 | 16.4 |
| Livestock Factors | | | |
| Value of feed fed to prod. l.s. | $______ | $2 145 | $ 2 145 |
| Feed fed per acre to prod. l.s. | ______ | ______ c/ | 9.86 |
| Returns per $100 worth of feed fed | ______ | ______ | 187 |
| Poultry returns per hen | ______ | 3.70 | 3.70 |
| Number of litters farrowed | ______ | 11.0 | 11.0 |
| Number of pigs weaned per litter | ______ | 6.8 | 6.8 |
| Returns per litter farrowed | $______ | $ 200 | $ 200 |
| Average number of cows milked | ______ | 3.3 | 3.3 |
| Dairy returns per cow milked | $ | $ c/ | $ 99 |
| Expense Factors | | | |
| Horse and machinery cost per crop acre | $______ | $______ d/ | $ 5.85 |
| Labor cost per crop acre | ______ | ______ | 8.48 |
| Total months of labor | ______ | ______ e/ | 20.2 |
| Number of work horses | ______ | ______ | 3.0 |
| Land improvements cost per acre | $______ | $ .80 | $ .80 |
| Buildings cost per acre | ______ | ______ e/ | .61 |
| Land tax per acre | | a/ | .79 |

Source of Standards:

a/ Table 3, value of improved land.
b/ Fig. 1, value of improved land.
c/ Table 4, source of income.
d/ Table 6, size of farm and value of feed fed per acre.
e/ Table 5, size of farm.

## CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

### Accounting Farms in Farming-Type Area 8, 1942

The numbers above the double lines of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

| | | | Factors that affect the gross earnings | | | | | | | | | | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Crop yields | | | | | | | | | | | |
| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Percent of tillable land in legume hay and pasture | Corn, bu. | Oats, bu. | Wheat, bu. | Feed fed per acre to prod. l.s. | Returns per $100 feed fed | Poultry returns per hen | Hog returns per litter farrowed | Dairy returns per cow milked | Gross expenses per acre | Horse and machinery cost per crop acre | Labor cost per crop acre | Buildings cost per acre |
| 32.9 | 418 | | | | | | | | 5.20 | 250 | | | | | |
| 29.9 | 378 | | | | | | | | 4.90 | 240 | | | | | |
| 26.9 | 338 | | | | | | | | 4.60 | 230 | | | | | |
| 23.9 | 298 | | | | | | | | 4.30 | 220 | | | | | |
| 20.9 | 258 | | | | | | | | 4.00 | 210 | | | | | |
| 17.9 | 218 | | | | | | | | 3.70 | 200 | | | | | |
| 14.9 | 178 | | | | | | | | 3.40 | 190 | | | | | |
| 11.9 | 138 | | | | | | | | 3.10 | 180 | | | | | |
| 8.9 | 98 | | | | | | | | 2.80 | 170 | | | | | |
| 5.9 | 58 | | | | | | | | 2.50 | 160 | | | | | |
| 2.9 | -- | | | | | | | | 2.20 | 150 | | | | | |
| * 3% | 40 | $3 | 3% | 4 | 4 | 2 | $2 | $15 | $.30 | $10 | $10 | $2 | $1 | $2 | $.30 |

* Each space between lines represents the values indicated at bottom of each column.

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS
RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 8, 1942

| Item | Value of improved land | | | |
|---|---|---|---|---|
| | Less than $33 | $33 to $47 | $48 to $62 | $63 or more |
| Average value of improved land- - - | $ 27 | $ 39 | $ 54 | $ 72 |
| Number of farms - - - - - - - - - - - | 24 | 34 | 17 | 17 |
| Acres per farm- - - - - - - - - - - - | 196 | 213 | 263 | 212 |
| Percent of land area tillable - - - | 77.2 | 83.0 | 85.2 | 88.0 |
| Percent of tillable land in: | | | | |
| Corn- - - - - - - - - - - - - - - - - | 20.7 | 22.4 | 27.9 | 26.8 |
| Oats- - - - - - - - - - - - - - - - - | 6.8 | 7.7 | 5.1 | 6.4 |
| Wheat - - - - - - - - - - - - - - - - | 11.0 | 12.8 | 14.8 | 16.4 |
| Soybeans- - - - - - - - - - - - - - - | 7.6 | 9.4 | 18.3 | 12.0 |
| Other crops - - - - - - - - - - - - - | 10.8 | 10.3 | 7.4 | 14.4 |
| Legume hay and pasture- - - - - - | 27.9 | 25.5 | 18.0 | 13.8 |
| Nonlegume hay and pasture - - - - | 15.2 | 11.9 | 8.5 | 10.2 |
| Gross earnings per acre - - - - - - | $ 18.89 | $ 21.78 | $ 28.99 | $ 33.89 |
| Gross expenses per acre - - - - - - | 9.23 | 10.42 | 10.96 | 13.64 |
| Net earnings per acre - - - - - - - | $ 9.66 | $ 11.36 | $ 18.03 | $ 20.25 |
| Land tax per acre - - - - - - - - - | $ .56 | $ .72 | $ .90 | $ 1.11 |

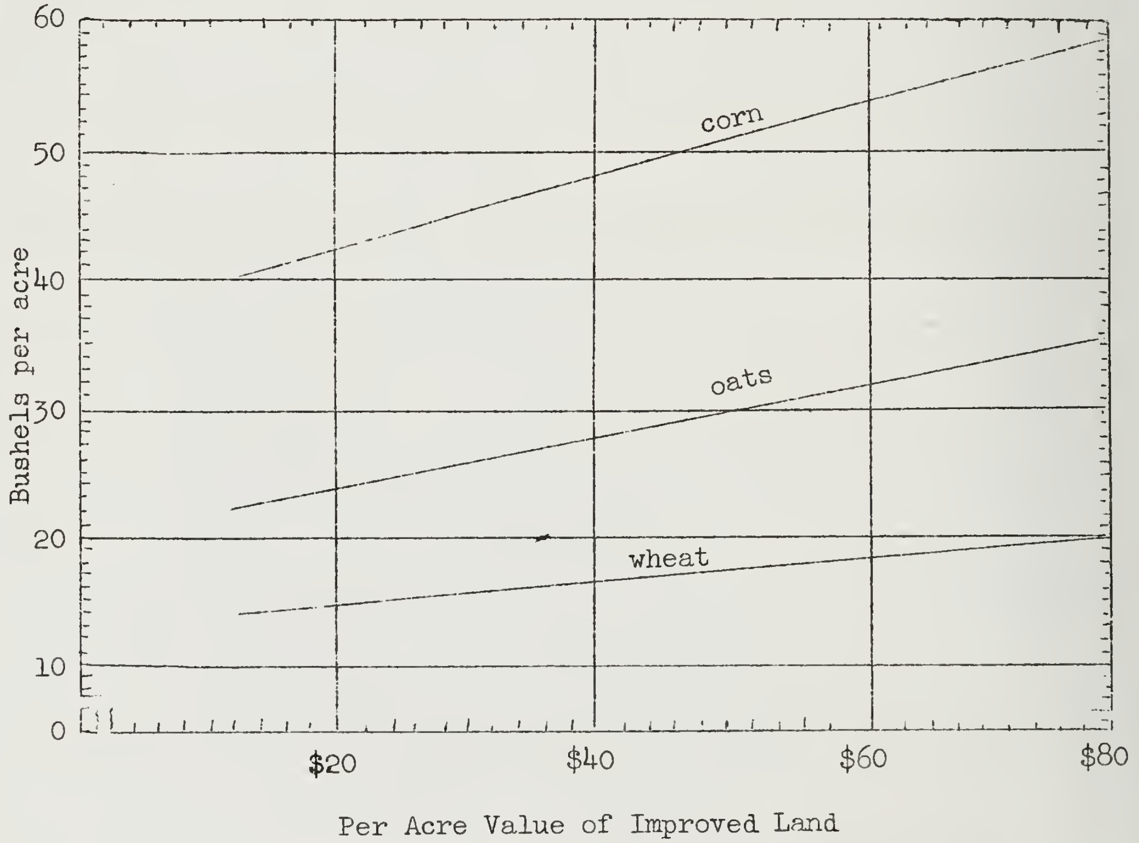

Fig. 1.--Average yields of corn, oats, and wheat with varying values of improved land.

## Explanation of Tables

Variable standards are used in analyzing the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per $100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farm" (Table 2) are taken from Tables 3 to 6 and from Figure 1 as follows:

Table 3 - Value of improved land.
    Gross earnings, gross expenses, and net earnings per acre.
    Value of improved land per acre.
    All items in the land-use section.
    Land tax per acre.
Figure 1 - Value of improved land.
    Yields for corn, oats, and wheat.
Table 4 - Source of income.
    Feed fed per acre to productive livestock.
    Returns per $100 worth of feed fed.
    Dairy returns per cow.
Table 5 - Size of farm.
    Value of buildings per acre.
    Total months of labor.
    Number of work horses.
    Buildings cost per acre.
Table 6 - Size of farm and value of feed fed per acre.
    Horse and machinery cost per crop acre.
    Labor cost per crop acre.

The terms used in the tables are the same as those in the Illinois farm account book. For example, "improved land" is classified on page 1 of the farm account book. It means crop land, tillable pasture, and land occupied by farmstead, roads, and lanes. Likewise, "crop acres" are listed on page 20 of the farm account book. They include all the tillable land on which a large amount of work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields. The percent of tillable land in grain crops increased as the value per acre of improved land increased (Table 3). Likewise, the percent of land area tillable, the net earnings per acre, and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, and wheat increased rapidly as the land value increased from $15 per acre to approximately $80 per acre (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, crop yields, and net earnings per acre were high or low for 1942 in comparison with the average of other farms in his area having about the same value of improved land.

TABLE ~~4~~.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 8, 1942

| Item | Source of income | | | |
|---|---|---|---|---|
| | | | General farms | |
| | Grain 40% + | Hogs 40% + | L.S. 60%- | L.S. 60% + |
| Number of farms | 12 | 33 | 12 | 35 |
| Percent of income from prod. l.s. | 42.0 | 82.3 | 53.1 | 73.5 |
| Percent of income from crops | 48.1 | 6.9 | 32.0 | 12.2 |
| Investments | | | | |
| Total per farm | $24 382 | $18 643 | $14 336 | $14 106 |
| Total per acre | 87 | 81 | 86 | 70 |
| Land per acre | 51 | 44 | 52 | 36 |
| Land improvements per acre | 1.81 | 2.41 | 2.12 | 2.49 |
| Buildings per acre | 9.13 | 7.34 | 7.31 | 8.40 |
| Machinery per acre | 9.18 | 8.33 | 9.03 | 5.33 |
| Earnings | | | | |
| Per farm | | | | |
| Gross earnings | $ 7 247 | $ 6 287 | $ 4 171 | $ 4 398 |
| Gross expenses | 2 826 | 2 566 | 2 158 | 2 076 |
| Net earnings | $ 4 421 | $ 3 721 | $ 2 013 | $ 2 322 |
| Per acre | | | | |
| Gross earnings | $ 25.90 | $ 27.30 | $ 25.04 | $ 21.78 |
| Gross expenses | 10.10 | 11.14 | 12.95 | 10.28 |
| Net earnings | $ 15.80 | $ 16.16 | $ 12.09 | $ 11.50 |
| Rate earned on investment | 18.1% | 20.0% | 14.0% | 16.5% |
| Labor and management earnings | $ 3 847 | $ 3 394 | $ 1 853 | $ 2 182 |
| Size and Intensity | | | | |
| Acres per farm | 280 | 230 | 167 | 202 |
| Percent of land area tillable | 90.2 | 85.2 | 85.4 | 76.6 |
| Percent tillable land in grain | 70.6 | 58.4 | 62.1 | 52.8 |
| Percent in hay and pasture | 23.1 | 31.3 | 31.2 | 43.0 |
| Feed fed per acre to prod. l.s. | $ 6.10 | $ 12.91 | $ 8.39 | $ 8.77 |
| Months of labor per 100 crop A. | 10.4 | 15.5 | 16.4 | 18.1 |
| Total months of labor | 22.0 | 22.0 | 17.2 | 19.0 |
| Crop Yields per Acre | | | | |
| Corn, bu. | 48.9 | 51.9 | 53.0 | 50.2 |
| Wheat, bu. | 14.7 | 16.9 | 13.5 | 16.2 |
| Livestock Returns | | | | |
| Per $100 feed fed | $ 193 | $ 183 | $ 177 | $ 196 |
| Hog returns per litter | 171 | 206 | 179 | 184 |
| Dairy returns per cow | 84 | 106 | 111 | 98 |
| Expense Factors | | | | |
| Labor cost per crop acre | $ 5.68 | $ 8.66 | $ 9.38 | $ 9.90 |
| Horse and machinery cost per crop acre | 4.90 | 6.02 | 6.96 | 5.90 |
| Land improvements cost per acre | .61 | .77 | .93 | .88 |
| Buildings cost per acre | .64 | .54 | .81 | .60 |
| Land tax per acre | .91 | .79 | .96 | .69 |

Source of income. The grouping of accounting farms according to source of income for 1942 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer, however, should use caution in interpreting the data in Table 4. For example, the fact that hog farms showed the largest rate earned on the investment for 1942 and that general farms with the smallest amount of livestock showed the smallest does not mean that such a relationship will prevail over a long period of years. The relative profitableness of enterprises in 1942 was due largely to conditions affecting price and production.

When comparing the returns on the various groups of farms per $100 worth of feed fed, one should consider the fact that there is a wide variation in the necessary returns per $100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, $195; dairy cattle, $157; hogs, $127; and feeder cattle, $117.

Differences in expenses, are significant for the four groups of farms. Labor input per 100 crop acres was highest on the general farms with the most livestock where 18.1 months of labor were used, and lowest on the grain farms, where 10.4 months of labor were used.

The labor cost per crop acre ranged from $9.90 on the general farms with the most livestock to $5.68 on the grain farms. The horse and machinery cost per crop acre was highest on the general farms with the least livestock where it averaged $6.96 and lowest on the grain farms, where it averaged $4.90; and the buildings cost per acre averaged $.81 on the general farms with the least livestock and $.54 on the hog farms.

Size of farm. When the farm records in Farming-Type Area 8 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on the smaller ones. After deductions were made for farm business expenditures and interest on the investment, labor and management earnings on the 15 farms that were 301 acres or larger in size averaged $5,271 contrasted with $2,151 for the 40 farms that averaged 135 acres in size. The rate earned on investment was not significantly different for the three groups of farms.

The smaller farms were operated more intensively than were the larger ones. This variation was indicated by the larger amount of feed fed per acre to productive livestock, by the larger percent of income from livestock, and by the smaller percent of income from crops.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 8, 1942

| Item | Total acres in farm | | |
|---|---|---|---|
| | Less than 181 | 181 to 300 | 301 or more |
| Number of farms | 40 | 37 | 15 |
| Acres per farm | 135 | 230 | 407 |
| Investments | | | |
| Total per farm | $11 474 | $16 979 | $32 423 |
| Total per acre | 85 | 74 | 80 |
| Land per acre | 44 | 41 | 46 |
| Land improvements per acre | 2.83 | 2.61 | 1.42 |
| Buildings per acre | 9.23 | 7.19 | 8.08 |
| Machinery per acre | 8.70 | 7.10 | 6.95 |
| Earnings | | | |
| Per farm | | | |
| Gross earnings | $ 3 956 | $ 5 203 | $ 9 829 |
| Gross expenses | 1 816 | 2 463 | 3 544 |
| Net earnings | $ 2 140 | $ 2 740 | $ 6 285 |
| Per acre | | | |
| Gross earnings | $ 29.32 | $ 22.58 | $ 24.17 |
| Gross expenses | 13.46 | 10.69 | 8.72 |
| Net earnings | $ 15.86 | $ 11.89 | $ 15.45 |
| Rate earned on investment | 18.6% | 16.1% | 19.4% |
| Labor and management earnings | $ 2 151 | $ 2 477 | $ 5 271 |
| Size and Intensity | | | |
| Percent of land area tillable | 85.3 | 82.9 | 81.2 |
| Percent of tillable land in grain | 56.1 | 57.4 | 64.4 |
| Percent in hay and pasture | 37.0 | 38.0 | 24.2 |
| Feed fed per acre to prod. l.s. | $ 12.52 | $ 8.28 | $ 9.69 |
| Percent of income from prod. l.s. | 77.9 | 65.2 | 66.7 |
| Percent of income from crops | 8.9 | 21.1 | 24.5 |
| Months of labor per 100 crop acres | 20.0 | 15.5 | 11.0 |
| Total months of labor | 16.5 | 20.9 | 28.5 |
| Number of work horses | 2.4 | 3.5 | 2.9 |
| Crop Yields per Acre | | | |
| Corn, bu. | 55.0 | 47.9 | 51.5 |
| Wheat, bu. | 18.1 | 17.2 | 11.7 |
| Livestock Returns | | | |
| Per $100 feed fed | $ 196 | $ 192 | $ 173 |
| Hog returns per litter | 203 | 194 | 178 |
| Dairy returns per cow | 109 | 89 | 96 |
| Expense Factors | | | |
| Labor cost per crop acre | $ 11.42 | $ 8.70 | $ 5.70 |
| Horse and machinery cost per crop acre | 6.55 | 6.14 | 4.86 |
| Land improvements cost per acre | .98 | .90 | .50 |
| Buildings cost per acre | .69 | .60 | .53 |
| Land tax per acre | .83 | .76 | .82 |

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses. Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases but decrease as the size of farm increases. Therefore, the efficiency of a farm in using labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 8, 1942

| Acres per farm | Feed fed per acre: Less than $6.00 | Feed fed per acre: $6.00 to $9.99 | Feed fed per acre: $10.00 or more | Feed fed per acre: Less than $6.00 | Feed fed per acre: $6.00 to $9.99 | Feed fed per acre: $10.00 or more |
|---|---|---|---|---|---|---|
| | (labor cost per crop acre) | | | (horse and machinery cost per crop acre) | | |
| Less than 181 | $9.00 | $10.80 | $12.30 | $6.00 | $6.50 | $7.60 |
| 181 to 300 | 6.20 | 7.90 | 9.00 | 5.00 | 6.20 | 7.00 |
| 301 or more | 5.50 | 5.90 | 6.20 | 4.50 | 5.10 | 5.50 |

## Producing for War Needs

In any given period gross receipts for hogs, cattle, dairy sales, eggs, and grain are relative measures of production (Table 7). Therefore the account keeper should use these standards to compare his own production with that of other account keepers. He should then adopt on his farm the kind of farm plan and the management practices that will make the best possible use of land, buildings, livestock, labor, machinery, and other resources for the duration of the war. Thus he will have more products to put on the nation's markets and will be making the greatest possible contribution to the war effort.

## TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 8, 1939-1942

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1942 | 1941 | 1940 | 1939 |
| Number of farms | -- | 92 | 80 | 57 | 6 |
| **Capital Investments** | | | | | |
| Land | $ | $ 9 384 | $ 8 951 | $10 378 | $ 9 97 |
| Land improvements | | 502 | )<br>)2 039 | | |
| Farm buildings | | 1 744 | | 2 087 | 1 89 |
| Horses | | 241 | 286 | 349 | 40 |
| Productive livestock: Cattle | | 1 050 | 869 | 772 | 63 |
| Hogs | | 522 | 279 | 276 | 29 |
| Sheep | | 86 | 73 | 80 | 7 |
| Poultry | | 152 | 123 | 130 | 12 |
| Total productive livestock | ( ) | (1 810) | (1 344) | (1 258) | (1 13 |
| Feed, grain, and seeds | | 1 794 | 1 333 | 1 217 | 1 228 |
| Machinery and equipment | | 1 390 | 1 205 | 1 283 | 1 197 |
| Automobile (farm share) | | 239 | 167 | 144 | 12 |
| Total | $ | $17 104 | $15 325 | $16 716 | $15 961 |
| **Receipts and Net Increases** | | | | | |
| Horses | $ | $ -- | $ -- | $ -- | $ -- |
| Productive livestock: Cattle | | 792 | 615 | 444 | 420 |
| Dairy sales | | 241 | 245 | 161 | 149 |
| Hogs | | 2 090 | 1 336 | 624 | 582 |
| Sheep | | 90 | 87 | 66 | 49 |
| Poultry | | 92 | 90 | 45 | 58 |
| Egg sales | | 467 | 282 | 206 | 195 |
| Total productive livestock | ( ) | (3 772) | (2 655) | (1 546) | (1 453 |
| Farm products used in household | | 317 | 267 | 211 | 239 |
| Feed, grain, and seeds | | 987 | 1 063 | 935 | 708 |
| AAA receipts | | 307 | 184 | 339 | 338 |
| Labor off farm | | 27 | 29 | 31 | 31 |
| Miscellaneous | | 2 | 7 | 14 | 13 |
| Total | $ | $ 5 412 | $ 4 205 | $ 3 076 | $ 2 782 |
| **Expenses and Net Decreases** | | | | | |
| Land improvements | $ | $ 173 | $)<br>) 195 | $ 180 | $ 113 |
| Farm buildings | | 132 | | | |
| Horses | | 1 | 21 | 20 | 6 |
| Productive livestock | | -- | -- | -- | -- |
| Feed, grain, and seeds | | -- | -- | -- | -- |
| Machinery and equipment | | 523 | 404 | 395 | 292 |
| Automobile (farm share) | | 114 | 103 | 82 | 82 |
| Livestock expense | | 39 | 23 | 18 | 22 |
| Hired labor | | 333 | 237 | 187 | 172 |
| Taxes | | 201 | 205 | 204 | 181 |
| Miscellaneous | | 23 | 17 | 22 | 20 |
| Total | $ | $ 1 539 | $ 1 205 | $ 1 108 | $ 888 |
| Receipts less expenses | $ | $ 3 873 | $ 3 000 | $ 1 968 | $ 1 894 |
| Family labor | | 227 | 178 | 155 | 137 |
| Returns for labor, capital, mgt. | $ | $ 3 646 | $ 2 822 | $ 1 813 | $ 1 757 |
| Operator's labor | | 588 | 468 | 419 | 421 |
| Net earnings per farm | $ | $ 3 058 | $ 2 354 | $ 1 394 | $ 1 336 |
| **Rate Earned on Investment** | % | 17.9% | 15.4% | 8.3% | 8.4% |
| Interest on investment | $ | $ 855 | $ 766 | $ 836 | $ 798 |
| **Labor and Management Earnings** | | 2 791 | 2 056 | 977 | 959 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United States Department of Agriculture cooperating. H. P. Rusk, *Director*. Acts approved by Congress May 8 and June 30, 1914.

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# FARM BUSINESS REPORT . . . 1942

Beef cattle are adapted to the available land, labor, and equipment found on many farms. This is especially true when maximum use is made of roughages.

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## FARMING-TYPE AREA NINE
## Southern Fruit and Vegetable Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

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Annual Farm Business Report

# ON TWENTY-EIGHT FARMS IN FARMING-TYPE AREA 9, 1942

By P. E. Johnston, J. B. Cunningham, and J. E. Wills[1]

War adjustments, Farm account cooperators in Farming-Type Area 9 responded to the war demand for increased production in 1942 over that of 1941 by increasing grain acreage, number of dairy cows, and number of hens.

| Item | 1941 | 1942 | Change |
|---|---|---|---|
| Acres per farm | 232 | 214 | 18 acres decrease |
| Acres of grain crops | 66 | 75 | 9 acres increase |
| Number of dairy cows | 6 | 8 | 2 cows increase |
| Number of pigs weaned | 52 | 46 | 6 pigs decrease |
| Number of hens | 105 | 140 | 35 hens increase |
| Total months of labor | 23 | 21 | 2 months decrease |
| Value of machinery (beginning of year) | $1 154 | $1 263 | $109 increase |
| Tons of grain produced | 48 | 48 | None |
| Measure of volume of production for livestock and livestock products[2] | $2 260 | $2 412 | $152 (6.7%) increase |

In 1942 the cooperators decreased the number of pigs weaned, used less labor, but increased machinery investments.

Even though grain acreage was larger in 1942 than in 1941, tons of grain produced were the same for each year. Failure to increase in 1942 was due, in part, to a small wheat crop. Livestock production, as measured by receipts and net increases for livestock and livestock products valued at the same price for 1942 as for 1941, increased 6.7 percent.

▨ Farming-Type Area 9
Fruit and Vegetable

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[1] W. N. Thompson supervised the closing of the farm accounts and the preparation of the tables used in this report. The project was conducted in cooperation with the county farm bureaus and was supervised by the following farm advisers: J. G. McCall, Jackson-Perry; J. R. Strubinger, Massac; G. C. Smith, Pope-Hardin; T. L. Davis, Pulaski-Alexander; and E. A. Bierbaum, Union.

[2] The 1941 actual receipts and net increases were used, for 1942 receipts and net increases were adjusted to the 1941 price level by dividing the 1942 receipts and net increases by the ratio of 1942 to 1941 Illinois farm prices for each class of livestock or livestock product.

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 9, 1939-1942

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1942 | 1941 | 1940 | 1939 |
| Inventory Changes | | | | | |
| Land improvements | $ | $ 13 | $ 11 | $ 132 | $ -79 |
| Farm buildings | | 41 | | | |
| Horses | | -29 | -62 | -16 | -3 |
| Productive livestock | | 477 | 356 | 141 | 19 |
| Feed, grain, and seeds | | 314 | 274 | 181 | 61 |
| Machinery and equipment | | -65 | 36 | 35 | 9 |
| Automobile (farm share) | | -8 | -32 | 41 | 5 |
| Total | $ | $ 743 | $ 583 | $ 514 | $ 12 |
| Cash Receipts | | | | | |
| Land improvements | $ | $ 18 | $ 8 | $ 31 | $ 20 |
| Farm buildings | | 9 | | | |
| Horses | | 53 | 75 | 45 | 58 |
| Productive livestock: Cattle | | 486 | 623 | 396 | 294 |
| Dairy sales | | 773 | 559 | 364 | 298 |
| Hogs | | 1 203 | 747 | 331 | 360 |
| Sheep | | 27 | 44 | 38 | 40 |
| Poultry | | 115 | 76 | 60 | 60 |
| Egg sales | | 407 | 186 | 119 | 124 |
| Total productive livestock | ( ) | (3 011) | (2 235) | (1 308) | (1 176 |
| Feed, grain, and seeds | | 790 | 734 | 587 | 1 169 |
| Machinery and equipment | | 137 | 206 | 94 | 100 |
| Automobile (farm share) | | 31 | 9 | 40 | 13 |
| AAA receipts | | 202 | 137 | 243 | 259 |
| Labor off farm | | 25 | 29 | 14 | 21 |
| Miscellaneous | | 1 | 20 | 2 | 15 |
| Total | $ | $ 4 277 | $ 3 453 | $ 2 364 | $ 2 831 |
| Cash Expenses | | | | | |
| Land improvements | $ | $ 159 | $ 258 | $ 213 | $ 168 |
| Farm buildings | | 175 | | | |
| Horses | | 35 | 21 | 28 | 46 |
| Productive livestock: Cattle | | 200 | 246 | 135 | 94 |
| Hogs | | 112 | 60 | 34 | 25 |
| Sheep | | 5 | 1 | 9 | 3 |
| Poultry | | 32 | 24 | 15 | 13 |
| Total productive livestock | ( ) | ( 349) | ( 331) | ( 193) | ( 135 |
| Feed and grain purchases | | 566 | 417 | 184 | 451 |
| Crop and sealing expense | | 162 | 156 | 96 | 75 |
| Machinery and equipment | | 561 | 678 | 448 | 373 |
| Automobile (farm share) | | 147 | 76 | 157 | 92 |
| Livestock expense | | 50 | 36 | 19 | 24 |
| Hired labor | | 296 | 313 | 249 | 411 |
| Taxes | | 167 | 159 | 147 | 135 |
| Miscellaneous | | 24 | 18 | 18 | 25 |
| Total | $ | $ 2 691 | $ 2 463 | $ 1 752 | $ 1 935 |
| Summary | | | | | |
| Total inventory change | $ | $ 743 | $ 583 | $ 514 | $ 12 |
| Cash balance | | 1 586 | 990 | 612 | 896 |
| Farm products used in household | | 345 | 278 | 220 | 229 |
| Receipts less expenses | $ | $ 2 674 | $ 1 851 | $ 1 346 | $ 1 137 |
| Total unpaid labor | | 778 | 663 | 530 | 522 |
| Net earnings per farm | $ | $ 1 896 | $ 1 188 | $ 816 | $ 615 |
| Net earnings per acre | $ | $ 8.85 | $ 5.13 | $ 3.49 | $ 3.31 |

Net earnings. The net earnings per farm on an inventory basis were higher in 1942 than in 1941; the average was $1,896 in 1942 compared with $1,188 in 1941. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding to the cash balance the value of farm products used in the household and the inventory increases and by subtracting from the resulting total the value of unpaid labor. Therefore this figure indicates the earning power of the business and determines the real value of the farm and its equipment. The average net earnings per acre were $8.85 in 1942, $5.13 in 1941, $3.49 in 1940, and $3.31 in 1939.

Inventory changes. The year 1942 was the sixth consecutive year in which inventories increased. The largest increase for the past four years was $743 in 1942 and the smallest was $12 in 1939 (Table 1). The largest increases in 1942 were for livestock and feed, grain, and seeds. The average amounts of grain on hand in Area 9 at the two inventory periods were:

| Crop | Beginning of year (bushels) | End of year (bushels) |
|---|---|---|
| Corn | 892 | 914 |
| Oats | 157 | 125 |
| Wheat | 148 | 83 |
| Soybeans | 41 | 91 |

Cash receipts and cash expenses. In 1942 cash receipts exceeded cash expenses by $1,586, the largest margin for any year during the past four. The cash balance--the difference between cash receipts and expenses--is the amount of money which was available for family living expenses, interest, debt payments, and savings.

Unpaid labor. Although there was no appreciable change in the amount of family labor available, the total valuation of unpaid labor was higher for 1942 than for any other year in the past four. This increase resulted from the fact that the physical labor of the operator and other members of the family was valued at $55 per month in 1942, $45 per month in 1941, and at $40 per month in 1940 and 1939.

Variation in farm earnings. A wide variation was found in earnings on the farms in Area 9. For example, 8 farms earned less than ten percent on their investment, with an average of 5.1 percent; but 8 farms earned 20 percent or more, with an average of 28.7 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had $545 for labor and management earnings contrasted with $3,319 for the latter group. The variation in earnings for all the records in the area was as follows:

| Rate earned on investment (percent) | Number of farms | Average rate earned (percent) | Acres per farm | Capital invested per farm | Gross earnings per farm | Net earnings per farm | Labor and management earnings |
|---|---|---|---|---|---|---|---|
| Less than 10.00 | 8 | 5.1 | 247 | $13 028 | $3 260 | $ 660 | $ 545 |
| 10.00 to 19.99 | 12 | 14.7 | 211 | 12 359 | 3 816 | 1 822 | 1 749 |
| 20.00 or more | 8 | 28.7 | 186 | 11 317 | 5 982 | 3 245 | 3 319 |

TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 9, 1942

| Item | Your farm | Standards for your farm | Average of all farms |
|---|---|---|---|
| Rate earned on investment | % | 15.5% | 15.5% |
| Number of farms | -- | -- | 28 |
| Acres in farm | | 214 | 214 |
| Acres tillable | | 154 | 154 |
| Acres in crops | | 99 | 99 |
| Gross earnings per acre | $ | $ a/ | $ 19.09 |
| Gross expenses per acre | | | 10.24 |
| Net earnings per acre | $ | $ | $ 8.85 |
| Investments | | | |
| Value of land per acre | $ | $ 27 | $ 27 |
| Value of improved land per acre | | a/ | 31 |
| Value of buildings per acre | | e/ | 7 |
| Total investment per acre | | 57 | 57 |
| Land Use | | | |
| Percent of land area tillable | | a/ | 72.0 |
| Percent of tillable land in: | | | |
| Corn | | | 15.8 |
| Oats | | | 6.3 |
| Wheat | | | 11.6 |
| Soybeans | | | 6.7 |
| Other crops | | | 18.6 |
| Legume hay and pasture | | | 31.4 |
| Nonlegume hay and pasture | | | 9.6 |
| Crop yields | | | |
| Corn | | b/ | 42.4 |
| Oats | | | 22.0 |
| Wheat | | | 14.0 |
| Livestock Factors | | | |
| Value of feed fed to prod. l.s. | $ | $1 568 | $1 568 |
| Feed fed per acre to prod. l.s. | | c/ | 7.32 |
| Returns per $100 worth of feed fed | | | 217 |
| Poultry returns per hen | | 4.24 | 4.24 |
| Number of litters farrowed | | 6.9 | 6.9 |
| Number of pigs weaned per litter | | 6.7 | 6.7 |
| Returns per litter farrowed | $ | $ 186 | $ 186 |
| Average number of cows milked | | 7.9 | 7.9 |
| Dairy returns per cow milked | $ | $ c/ | $ 107 |
| Expense Factors | | | |
| Horse and machinery cost per crop acre | $ | $ d/ | $ 7.77 |
| Labor cost per crop acre | | | 10.59 |
| Total months of labor | | e/ | 20.7 |
| Number of work horses | | | 3.5 |
| Land improvements cost per acre | $ | $ .60 | $ .60 |
| Buildings cost per acre | | e/ | .58 |
| Land tax per acre | | a/ | .67 |

Source of Standards:

a/ Table 3, value of improved land.
b/ Fig. 1, value of improved land.
c/ Table 4, source of income.
d/ Table 6, size of farm and value of feed fed per acre.
e/ Table 5, size of farm.

## CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

### Accounting Farms in Farming-Type Area 9, 1942

The numbers above the double line of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

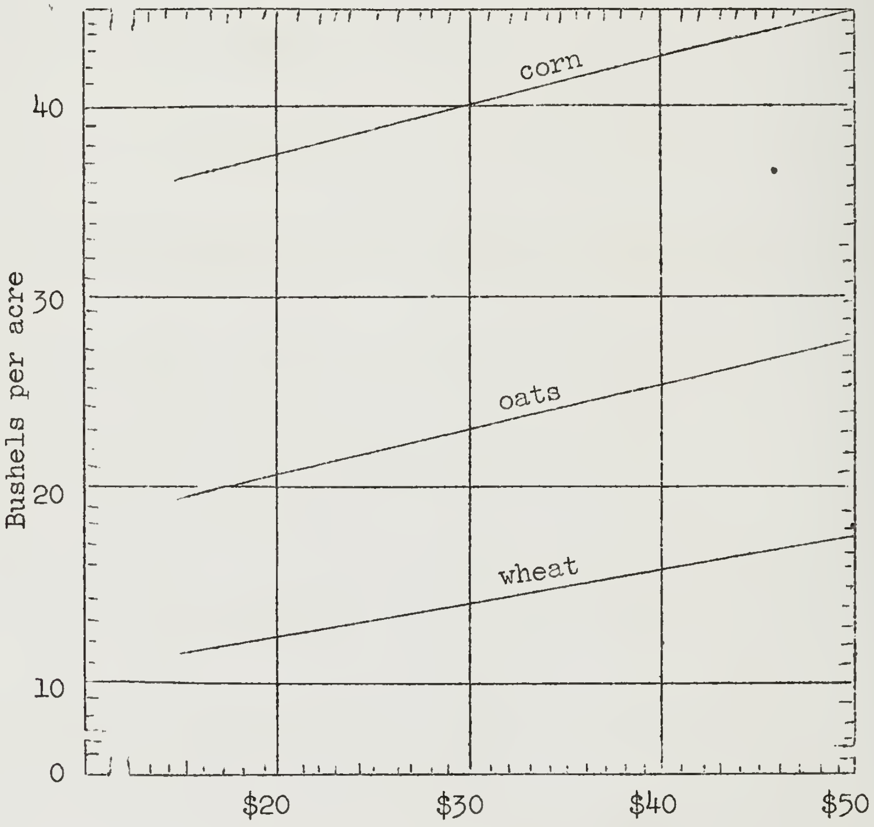
| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Factors that affect the gross earnings | | | | | | | | | Gross expenses per acre | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Percent of tillable land in legume hay and pasture | Crop yields | | | Feed fed per acre to prod. l.s. | Returns per $100 feed fed | Poultry returns per hen | Hog returns per litter farrowed | Dairy returns per cow milked | | Horse and machinery cost per crop acre | Labor cost per crop acre | Buildings cost per acre |
| | | | | Corn, bu. | Oats, bu. | Wheat, bu. | | | | | | | | | |
| 30.5 | 364 | | | | | | | | 5.74 | 236 | | | | | |
| 27.5 | 334 | | | | | | | | 5.44 | 226 | | | | | |
| 24.5 | 304 | | | | | | | | 5.14 | 216 | | | | | |
| 21.5 | 274 | | | | | | | | 4.84 | 206 | | | | | |
| 18.5 | 244 | | | | | | | | 4.54 | 196 | | | | | |
| 15.5 | 214 | | | | | | | | 4.24 | 186 | | | | | |
| 12.5 | 184 | | | | | | | | 3.94 | 176 | | | | | |
| 9.5 | 154 | | | | | | | | 3.64 | 166 | | | | | |
| 6.5 | 124 | | | | | | | | 3.34 | 156 | | | | | |
| 3.5 | 94 | | | | | | | | 3.04 | 146 | | | | | |
| .5 | 64 | | | | | | | | 2.74 | 136 | | | | | |
| 3% | 30 | $2 | 2% | 3 | 3 | 2 | $2 | $15 | $.30 | $10 | $10 | $1 | $1 | $2 | $.20 |

*Each space between lines represents the values indicated at bottom of each column.

## TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS RELATED TO THE VALUE OF IMPROVED LAND

Accounting Farms in Farming-Type Area 9, 1942

| Item | Value of improved land | | | |
|---|---|---|---|---|
| | Less than $22 | $22 to $31 | $32 to $41 | More than $41 |
| Average value of improved land- | $ 18 | $ 28 | $ 35 | $ 49 |
| Number of farms - - - - - - - - | 5 | 12 | 8 | 3 |
| Acres per farm- - - - - - - - - | 165 | 216 | 259 | 168 |
| Percent of land area tillable - | 63.9 | 76.9 | 67.7 | 77.1 |
| Percent of tillable land in: | | | | |
| Corn- - - - - - - - - - - - - - | 15.7 | 15.3 | 15.6 | 19.0 |
| Oats- - - - - - - - - - - - - - | 10.0 | 7.5 | 5.1 | .3 |
| Wheat - - - - - - - - - - - - - | 5.5 | 11.5 | 14.0 | 11.7 |
| Soybeans- - - - - - - - - - - - | 2.3 | 7.1 | 7.5 | 7.5 |
| Other crops - - - - - - - - - - | 20.7 | 16.7 | 18.6 | 26.2 |
| Legume hay and pasture- - - - | 33.1 | 33.9 | 28.3 | 26.5 |
| Nonlegume hay and pasture - - | 12.7 | 8.0 | 10.9 | 8.8 |
| Gross earnings per acre - - - - | $17.82 | $15.15 | $21.58 | $33.32 |
| Gross expenses per acre - - - - | 10.91 | 8.58 | 11.22 | 15.72 |
| Net earnings per acre - - - - - | $ 6.91 | $ 6.57 | $10.36 | $17.60 |
| Land tax per acre - - - - - - - | $ .53 | $ .63 | $ .72 | $ .83 |



Per acre value of improved land

Fig. 1.--Average yields of corn, oats, and wheat with varying values of improved land.

## Explanation of Tables

Variable standards are used in analyzing the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per $100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farm" (Table 2) are taken from Tables 3 to 6 and from Figure 1 as follows:

| | |
|---|---|
| Table 3 | - Value of improved land.<br>Gross earnings, gross expenses, and net earnings per acre.<br>Value of improved land per acre.<br>All items in the land-use section.<br>Land tax per acre. |
| Figure 1 | - Value of improved land.<br>Yields for corn, oats, and wheat. |
| Table 4 | - Source of income.<br>Feed fed per acre to productive livestock.<br>Returns per $100 worth of feed fed.<br>Dairy returns per cow. |
| Table 5 | - Size of farm.<br>Value of buildings per acre.<br>Total months of labor<br>Number of work horses.<br>Buildings cost per acre. |
| Table 6 | - Size of farm and amount of feed fed per acre.<br>Horse and machinery cost per crop acre.<br>Labor cost per crop acre. |

The terms used in the tables are the same as the terms used in the Illinois farm account book. For example, "improved land" is classified on Page 1 of the farm account book. It means crop land, tillable pasture, and land occupied by farmstead, roads, and lanes. Likewise, "crop acres" are listed on page 20 of the farm account book. They include all the tillable land on which a large amount of work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields. Net earnings per acre and land tax per acre increase as the value per acre for improved land increases. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, and wheat increased as the land value increased from $15 per acre to $50 per acre (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, crop yields, and net earnings per acre were high or low for 1942 in comparison with the average of other farms in his area having about the same value of improved land.

### TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 9, 1942

| Item | Source of income | | |
|---|---|---|---|
| | Hogs | General farms | |
| | 40% + | L.S. 60%- | L.S. 60%+ |
| Number of farms | 4 | 6 | 18 |
| Percent of income from productive livestock | 88.4 | 53.0 | 80.8 |
| Percent of income from crops | -- | 34.8 | 3.9 |
| Investments | | | |
| Total per farm | $13 218 | $10 414 | $12 651 |
| Total per acre | 61 | 51 | 58 |
| Land per acre | 29 | 25 | 27 |
| Land improvements per acre | 3.69 | 4.27 | 2.36 |
| Buildings per acre | 4.80 | 4.73 | 8.36 |
| Machinery per acre | 7.34 | 6.25 | 6.96 |
| Earnings | | | |
| Per farm | | | |
| Gross earnings | $ 5 066 | $ 4 017 | $ 3 933 |
| Gross expenses | 2 319 | 2 109 | 2 230 |
| Net earnings | $ 2 747 | $ 1 908 | $ 1 703 |
| Per acre | | | |
| Gross earnings | $ 23.56 | $ 19.61 | $ 18.12 |
| Gross expenses | 10.78 | 10.30 | 10.27 |
| Net earnings | $ 12.78 | $ 9.31 | $ 7.85 |
| Rate earned on investment | 20.8% | 18.3% | 13.5% |
| Labor and management earnings | $ 2 726 | $ 1 956 | $ 1 626 |
| Size and Intensity | | | |
| Acres per farm | 215 | 205 | 217 |
| Percent of land area tillable | 72.0 | 72.5 | 71.8 |
| Percent of tillable land in grain | 60.5 | 48.4 | 46.2 |
| Percent in hay and pasture | 29.6 | 37.3 | 44.9 |
| Feed fed per acre to productive livestock | $ 11.44 | $ 5.19 | $ 7.09 |
| Months of labor per 100 crop acres | 17.0 | 22.0 | 21.6 |
| Total months of labor | 18.9 | 20.8 | 21.1 |
| Crop yields per Acre | | | |
| Corn, bu. | 42.8 | 50.1 | 40.1 |
| Wheat, bu. | 9.1 | 16.6 | 14.0 |
| Livestock Returns | | | |
| Per $100 feed fed | $ 190 | $ 224 | $ 226 |
| Hog returns per litter | 175 | 199 | 181 |
| Dairy returns per cow | 97 | 90 | 112 |
| Expense Factors | | | |
| Labor cost per crop acre | $ 9.12 | $ 11.99 | $ 10.50 |
| Horse and machinery cost per crop acre | 7.15 | 6.92 | 8.20 |
| Land improvements cost per acre | .37 | .78 | .60 |
| Buildings cost per acre | .45 | .52 | .64 |
| Land tax per acre | .70 | .61 | .68 |

Source of income. The grouping of accounting farms according to source of income for 1942 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer, however, should use caution in interpreting the data in Table 4. For example, the fact that the hog farms earned a larger rate on the investment for 1942 than the general farms does not mean that such a relationship will prevail over a long period of years. The relative profitableness of various enterprises in 1942 was due largely to conditions affecting price and production.

In comparing the returns on the various groups of farms per $100 worth of feed fed, the farmer should consider the fact that there is a wide variation in the necessary returns per $100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, $195; dairy cattle, $157; hogs, $127; and feeder cattle, $117.

Furthermore, in any comparison of factors for the various groups of farms, one should consider the fact that the number of farms for which the averages are given is small and that the individual farms in each group are variable as to organization and management.

The labor cost per crop acre ranged from $11.99 on the general farms with the least livestock to $9.12 on the hog farms. The horse and machinery cost per crop acre and the buildings cost per acre were highest on the general farms with the most livestock.

Size of farm. When the farm records in Farming-Type Area 9 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on either of the other two groups. The smaller farms had higher investments per acre for land, land improvements, machinery, and total investment, indicating a higher capital input. The rate earned on investment and the labor and management earnings were lower for the 151 to 230 acre farms than for either of the other two groups, but there was a wide fluctuation in earnings in each size group..

The smaller farms were operated more intensively than were the larger ones. This variation was indicated by the much higher gross earnings per acre, by the larger amount of feed fed per acre to productive livestock, and by the higher crop yields.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 9, 1942

| Item | Total acres in farm | | |
|---|---|---|---|
| | Less than 151 | 151 to 230 | 231 or more |
| Number of farms | 5 | 13 | 10 |
| Acres per farm | 105 | 175 | 320 |
| Investments | | | |
| Total per farm | $ 8 433 | $ 9 701 | $17 480 |
| Total per acre | 81 | 55 | 55 |
| Land per acre | 31 | 25 | 27 |
| Land improvements per acre | 8.45 | 2.24 | 2.54 |
| Buildings per acre | 6.41 | 6.80 | 7.43 |
| Machinery per acre | 8.22 | 7.92 | 5.89 |
| Earnings | | | |
| Per farm | | | |
| Gross earnings | $ 3 727 | $ 3 252 | $ 5 381 |
| Gross expenses | 1 921 | 1 884 | 2 751 |
| Net earnings | $ 1 806 | $ 1 368 | $ 2 630 |
| Per acre | | | |
| Gross earnings | $ 35.63 | $ 18.58 | $ 16.82 |
| Gross expenses | 18.37 | 10.77 | 8.60 |
| Net earnings | $ 17.26 | $ 7.81 | $ 8.22 |
| Rate earned on investment | 21.4% | 14.1% | 15.0% |
| Labor and management earnings | $ 1 890 | $ 1 427 | $ 2 389 |
| Size and Intensity | | | |
| Percent of land area tillable | 80.3 | 73.9 | 69.2 |
| Percent of tillable land in grain | 45.8 | 49.9 | 48.4 |
| Percent in hay and pasture | 40.8 | 41.9 | 40.6 |
| Feed fed per acre to productive livestock | $ 19.11 | $ 6.15 | $ 6.23 |
| Percent of income from productive livestock | 91.6 | 70.4 | 76.3 |
| Percent of income from crops | -- | 13.9 | 9.1 |
| Months of labor per 100 crop acres | 32.8 | 22.9 | 17.8 |
| Total months of labor | 18.3 | 19.2 | 24.0 |
| Number of work horses | 3.0 | 3.5 | 3.6 |
| Crop Yields per Acre | | | |
| Corn, bu. | 50.8 | 38.4 | 44.3 |
| Wheat, bu. | 18.5 | 15.9 | 9.9 |
| Livestock Returns | | | |
| Per $100 feed fed | $ 178 | $ 239 | $ 221 |
| Hog returns per litter | 228 | 172 | 185 |
| Dairy returns per cow | 94 | 87 | 128 |
| Expense Factors | | | |
| Labor cost per crop acre | $ 17.81 | $ 11.26 | $ 9.00 |
| Horse and machinery cost per crop acre | 9.88 | 7.80 | 7.64 |
| Land improvements cost per acre | 1.62 | .51 | .50 |
| Buildings cost per acre | .78 | .57 | .57 |
| Land tax per acre | .78 | .74 | .59 |

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses. Labor expenses per crop acre increase as the amount of livestock per acre increases but decrease as the size of farm increases. Horse and machinery cost per crop acre, on the other hand, remained constant as the amount of livestock per acre increased and decreased as the size of the farms increased. Therefore, the efficiency of a farm in using labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 9, 1942

|  | Feed fed per acre |  |  | Feed fed per acre |  |  |
|---|---|---|---|---|---|---|
| Acres per farm | Less than $4.00 | $4.00 to $6.99 | $7.00 or more | Less than $4.00 | $4.00 to $6.99 | $7.00 or more |
|  | (labor cost per crop acre) |  |  | (horse and machinery cost per crop acre) |  |  |
| Less than 151 | $11.60 | $13.50 | $14.50 | $9.90 | $9.90 | $9.90 |
| 151 to 230 | 9.50 | 11.30 | 11.90 | 7.80 | 7.80 | 7.80 |
| 231 or more | 8.50 | 9.50 | 10.20 | 7.60 | 7.60 | 7.60 |

## Producing for War Needs

In any given period gross receipts for hogs, cattle, dairy sales, eggs, and grain are relative measures of production (Table 7). Therefore the account keeper should use these standards to compare his own production with that of other account keepers. He should then adopt on his farm the kind of farm plan and the management practices that will make the best possible use of land, buildings, livestock, labor, machinery, and other resources for the duration of the war. Thus he will have more products to put on the nation's markets and will be making the greatest possible contribution to the war effort.

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 9, 1939-1942

| Item | Your farm | Average of all farms in area | | | |
|---|---|---|---|---|---|
| | | 1942 | 1941 | 1940 | 1939 |
| Number of farms | -- | 28 | 34 | 55 | 56 |
| Capital Investments | | | | | |
| Land | $ | $ 5 777 | $ 6 049 | $ 5 907 | $ 5 157 |
| Land improvements | | 629 | 2 299 | 2 323 | 3 315 |
| Farm buildings | | 1 522 | | | |
| Horses | | 300 | 396 | 375 | 392 |
| Productive livestock: Cattle | | 852 | 878 | 786 | 550 |
| Hogs | | 314 | 199 | 172 | 235 |
| Sheep | | 39 | 40 | 35 | 62 |
| Poultry | | 127 | 97 | 86 | 91 |
| Total productive livestock | ( ) | (1 332) | (1 214) | (1 079) | ( 938) |
| Feed, grain, and seeds | | 1 223 | 1 068 | 843 | 768 |
| Machinery and equipment | | 1 263 | 1 154 | 1 061 | 995 |
| Automobile (farm share) | | 207 | 204 | 145 | 124 |
| Total | $ | $12 253 | $12 384 | $11 733 | $11 689 |
| Receipts and Net Increases | | | | | |
| Horses | $ | $ -- | $ -- | $ 1 | $ 9 |
| Productive livestock: Cattle | | 473 | 569 | 377 | 266 |
| Dairy sales | | 773 | 559 | 364 | 298 |
| Hogs | | 1 354 | 825 | 299 | 306 |
| Sheep | | 28 | 47 | 39 | 25 |
| Poultry | | 104 | 74 | 58 | 41 |
| Egg sales | | 407 | 186 | 119 | 124 |
| Total productive livestock | ( ) | (3 139) | (2 260) | (1 256) | (1 060) |
| Farm products used in household | | 345 | 278 | 220 | 229 |
| Feed, grain, and seeds | | 376 | 435 | 488 | 704 |
| AAA receipts | | 202 | 137 | 243 | 259 |
| Labor off farm | | 25 | 29 | 14 | 21 |
| Miscellaneous | | 1 | 20 | 2 | 15 |
| Total | $ | $ 4 088 | $ 3 159 | $ 2 224 | $ 2 297 |
| Expenses and Net Decreases | | | | | |
| Land improvements | $ | $ 128 | $ 239 | $ 50 | $ 227 |
| Farm buildings | | 125 | | | |
| Horses | | 11 | 8 | -- | -- |
| Productive livestock | | -- | -- | -- | -- |
| Feed, grain, and seeds | | -- | -- | -- | -- |
| Machinery and equipment | | 489 | 436 | 319 | 264 |
| Automobile (farm share) | | 124 | 99 | 76 | 74 |
| Livestock expense | | 50 | 36 | 19 | 24 |
| Hired labor | | 296 | 313 | 249 | 411 |
| Taxes | | 167 | 159 | 147 | 135 |
| Miscellaneous | | 24 | 18 | 18 | 25 |
| Total | $ | $ 1 414 | $ 1 308 | $ 878 | $ 1 160 |
| Receipts less expenses | $ | $ 2 674 | $ 1 851 | $ 1 346 | $ 1 137 |
| Family labor | | 208 | 214 | 156 | 120 |
| Returns for labor, capital, mgt. | $ | $ 2 466 | $ 1 637 | $ 1 190 | $ 1 017 |
| Operator's labor | | 570 | 449 | 374 | 402 |
| Net earnings per farm | $ | $ 1 896 | $ 1 188 | $ 816 | $ 615 |
| Rate Earned on Investment | % | 15.5% | 9.6% | 7.0% | 5.3% |
| Interest on investment | $ | $ 613 | $ 619 | $ 587 | $ 585 |
| Labor and Management Earnings | | 1 853 | 1 018 | 603 | 432 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United States Department of Agriculture cooperating. H. P. Rusk, *Director*. Acts approved by Congress May 8 and June 30, 1914.

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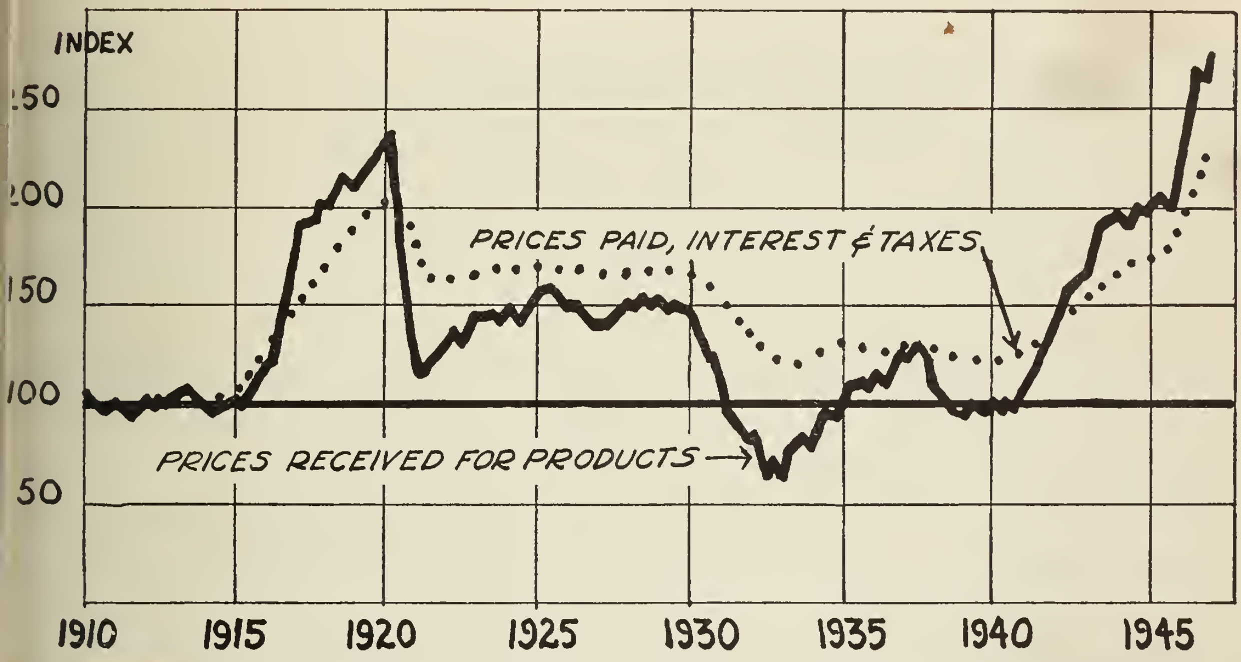
# YOUR FARM BUSINESS REPORT . . . . . . 1946



PRICES RECEIVED AND PAID BY FARMERS, INDEX NUMBERS, U.S., 1910-14 = 100

Prices received by farmers rose sharply in 1946. In October the index had risen to 273, the highest level on record. After a decline to 260 in January the index rose to another record of 280 on March 15, 1947. Although the index of prices paid also rose sharply in 1946, the ratio of prices received to prices paid reached a peak of 132 in October. Since October prices paid by farmers have risen more rapidly than prices received; on March 15, 1947, the ratio of prices received to prices paid was 122.

## FARMING-TYPE AREA TWO

### Northwestern Mixed Livestock Area

NAME________________________________________

THE LI
JUL 29 1947
UNIVERSITY OF ILLINOIS

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

AE-2448

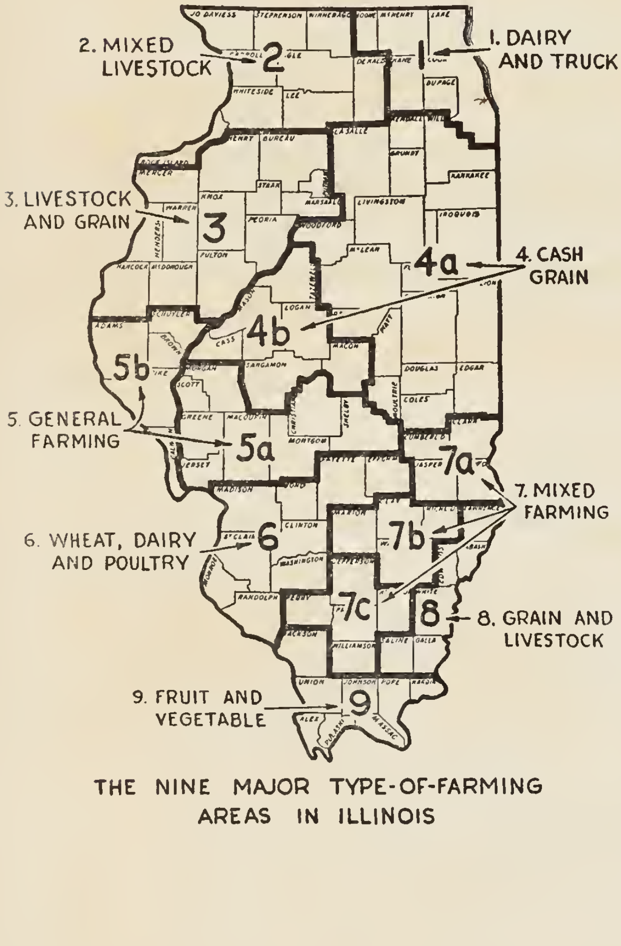
UNIVERSITY *of* ILLINOIS
COLLEGE *of* AGRICULTURE
AGRICULTURAL EXPERIMENT STATION
URBANA, ILLINOIS

DEPARTMENT *of*
AGRICULTURAL ECONOMICS

Dear Cooperator:

This is the thirty-first annual report of farm account records kept by Illinois farmers enrolled in the farm accounting extension project conducted by this department. The earnings on farms, both during World War I and World War II, show some interesting comparisons. The earnings in 1946 for Illinois as a whole were the highest of any year during the period. The advance in prices of farm products was so great when price restrictions were removed that differences in earnings between farms were due more to differences in prices received than to any other single factor. This is indicated in part by the chart on the front cover.

In spite of differences in earnings due to price changes, it should be emphasized that "Good Farming Paid." Profitable farming in Illinois will always depend upon the wise choice of crops to be grown, good yields, the production of livestock when well managed, and a careful control of expenses for labor, power, equipment, and other costs.



THE NINE MAJOR TYPE-OF-FARMING AREAS IN ILLINOIS

In addition to serving the purpose of studying your business and planning your farming operations for the future, farm records are a valuable guide for adjusting farm leases or father-son business agreements especially in periods of rapidly changing conditions.

The form for figuring the plant food balance for your farm and the directions for making the study on the last two pages of this report merit careful study. The heavy production of grain throughout the war years has been a severe drain on the fertility of Illinois farms. Future economical production requires replacing much of the plant food removed through heavy cropping if large yields are to be attained.

The map on this page will identify the area for which this report is prepared.

We trust that this report will prove valuable to you.

Very truly yours,

H. C. M. CASE
Head of Department

Annual Farm Business Report

# ONE HUNDRED SIX FARMS IN FARMING-TYPE AREA 2, 1946

J. B. Cunningham, A. T. Anderson, and A. G. Mueller[1]

Because of a favorable crop season and high prices (see front cover) net farm earnings on accounting farms in northwestern Illinois in 1946 were the highest on record. Corn acreage was larger than in 1945, and the average yield of 65.7 bushels an acre was one of the highest ever recorded for accounting farms in this area.

Cash receipts per farm averaged $18,030 (Table 2), $4,526 higher than in 1945. Increased sales of livestock, particularly cattle and hogs, accounted for $4,101 of this increase. Cash expenses per farm averaged $11,129, an increase of $2,993 over the 1945 figure. The increase was the result of more cattle purchases and increased purchases of land improvements, buildings and machinery, items that were hard to get during the war years.

Cash balance per farm averaged $6,901, $1,533 more than in 1945. Although cash expenses increased in 1946, increased cash sales more than offset the added expenses. In addition to a larger cash balance, there was an inventory increase of $2,508 in 1946.

Averages presented in this report provide good standards for measuring your efficiency. From Tables 1 through 5 you may determine where your returns were above or below the average of other farms in your area. Where efficiency factors are influenced by size of farm, value of land, or sources of income, the records have been sorted into groups and averages presented for each group.

The accounting farms in this report were larger than the average of all the farms in the area; the crop yields were above average; and the farm operators were more skillful than average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

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[1] In cooperation with the following farm advisers:

| | | | |
|---|---|---|---|
| Carroll | M. P. Roske | Rock Island | G. H. Reid |
| DeKalb | W. C. Mummert | Stephenson | V. J. Banter |
| Jo Daviess | E. V. Stadel | Whiteside | F. H. Shuman |
| Lee | C. E. Yale | Winnebago | H. R. Brunnemeyer |
| Ogle | D. E. Warren | | |

### TABLE 1.--FACTORS USED TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 2, 1946

| Item<br>(Those capitalized used in chart on opposite page) | Your farm | Standards for your farm | Average of 106 farms |
|---|---|---|---|
| RATE EARNED ON INVESTMENT........................ | ______% | 20.7 % | 20.7 |
| Labor and management earnings.................... | $______ | $______ c/ | $ 7420 |
| ACRES IN FARM.................................... | ______ | 200 | 200 |
| Acres in crops................................... | ______ | 140 | 140 |
| GROSS EARNINGS PER ACRE.......................... | $______ | $______ a/ | $ 71.72 |
| GROSS EXPENSE PER ACRE........................... | ______ | ______ | 32.97 |
| Net earnings per acre............................ | $______ | $______ | $ 38.75 |
| **Investments** | | | |
| Value of improved land per acre.................. | $______ | $______ a/ | $ 99 |
| Total investment per acre........................ | ______ | ______ | 187 |
| **Land use** | | | |
| Percent of land area tillable.................... | ______ | ______ a/ | 82.4 |
| Percent of tillable land in: | | a/ | |
| Corn............................................. | ______ | ______ | 42.7 |
| Oats............................................. | ______ | ______ | 23.1 |
| Wheat............................................ | ______ | ______ | .6 |
| Soybeans for grain............................... | ______ | ______ | 2.7 |
| HAY AND PASTURE (incl. cl. & gr. seed crops). | ______ | ______ | 29.5 |
| Other crops (includes idle tillable land).... | ______ | ______ | 1.4 |
| **Crop yields** | | | |
| CORN, BU. ....................................... | ______ | ______ a/ | 65.7 |
| OATS, BU. ....................................... | ______ | ______ | 54.8 |
| WHEAT, BU. ...................................... | ______ | ______ | 31.0 |
| SOYBEANS, BU. ................................... | ______ | ______ | 24.9 |
| **Livestock factors** | | | |
| FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK...... | $______ | $______ b/ | $ 39.01 |
| RETURNS PER $100 FEED FED........................ | $______ | $______ | $ 162 |
| Number of cows milked............................ | ______ | ______ | 13.2 e |
| DAIRY RETURNS PER COW MILKED..................... | $______ | $______ | $ 267 |
| Number of litters farrowed....................... | ______ | ______ | 18.2 f |
| NUMBER OF PIGS WEANED PER LITTER................. | ______ | ______ | 6.6 |
| Returns per litter farrowed...................... | $______ | $______ | $ 324 |
| Number of hens................................... | ______ | ______ | 176 g |
| EGG RETURNS PER HEN.............................. | $______ | $______ | $ 4.36 |
| **Expense factors** | | | |
| Labor: COST PER CROP ACRE........................ | $______ | $______ d/ | $ 19.16 |
| " Total months of labor.......................... | ______ | ______ c/ | 20.5 |
| POWER AND MACHINERY COST PER CROP ACRE......... | $______ | $______ d/ | $ 13.06 |
| Land improvement cost per acre................... | ______ | ______ a/ | 1.71 |
| BUILDINGS COST PER ACRE.......................... | ______ | ______ c/ | 2.30 |
| Land tax per acre................................ | ______ | ______ a/ | 1.33 |

a/ Table 4, value of improved land
b/ Table 5, source of income
c/ Table 3, size of farm
d/ Table 6, size of farm and amount of feed fed per acre
e/ Farms with over $299 dairy sales
f/ Farms buying feeder pigs excluded
g/ Farms with more than 49 hens

## USE THIS CHART TO STUDY YOUR BUSINESS
### Accounting Farms in Farming-Type Area 2, 1946

The double line across the middle of the page represents the average for farms which are similar to your farm for the indicated factor. By drawing a line across each column at the place where your farm stands in that factor, you can compare your efficiency with that of other similar accounting farms in your area.

| | | | | Factors that affect earnings | | | | | | | | | | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Crop yields | | | | | Livestock | | | | | | |
| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Gross expenses per acre | Percent of tillable land in hay and pasture | Corn, bu. | Oats, bu. | Wheat, bu. | Soybeans, bu. | Feed fed per acre to prod. livestock | Returns per $100 feed fed prod. l.s. | Dairy returns per cow milked | No. of pigs weaned per litter | Egg returns per hen | Labor cost per crop acre | Power and machinery cost per crop acre | Buildings cost per acre |
| | | | | | | | | | | | | | | | | |
| 36.7 | 320 | | | | | | | | | | | | | | | |
| 32.7 | 290 | | | | | | | | | | | | | | | |
| 28.7 | 260 | | | | | | | | | | | | | | | |
| 24.7 | 230 | | | | | | | | | | | | | | | |
| 20.7 | 200 | | | | | | | | | | | | | | | |
| 16.7 | 170 | | | | | | | | | | | | | | | |
| 12.7 | 140 | | | | | | | | | | | | | | | |
| 8.7 | 110 | | | | | | | | | | | | | | | |
| 4.7 | 80 | | | | | | | | | | | | | | | |
| .7 | 50 | | | | | | | | | | | | | | | |
| 4% | 30 | $4 | $3 | 2% | 3 bu. | 2 bu. | 1 bu. | 1 bu. | $3 | $20 | $25 | .5 | $.40 | $1 | $1 | $.25 |

*Each space between lines represents the value indicated at bottom of each column.

(Higher values are recorded above the center of the page and lower values below, except for expenses, which are recorded in the opposite direction).

TABLE 2.--INVESTMENTS, INVENTORY CHANGES, CASH EXPENSES, CASH RECEIPTS, AND EARNINGS
Accounting Farms in Farming-Type Area 2, 1946

| Item | Capital investments | | Change in inventory | |
|---|---|---|---|---|
| | Your farm | Average of 106 farms | Your farm | Average of 106 farms |
| Land | $ | $ 18333 | $ -- | $ -- |
| Land improvements | | 836 | | 127 |
| Farm buildings | | 4958 | | 242 |
| Horses | | 136 | | -34 |
| Prod. l.s.: Cattle | | 4289 | | 466 |
| Hogs | | 1700 | | 663 |
| Sheep | | 238 | | 1 |
| Poultry | | 225 | | -7 |
| Total productive livestock | ( ) | ( 6452 ) | ( ) | ( 1123 |
| Feed, grain, and seeds | | 3920 | | 724 |
| Machinery and equipment | | 2642 | | 373 |
| Automobile (farm share) | | 194 | | 47 |
| Totals | $ | $ 37471 | $ | $ 2508 |

| Item | Cash expenses | | Cash receipts | |
|---|---|---|---|---|
| | Your farm | Average of 106 farms | Your farm | Average of 106 farms |
| Land improvements | $ | $ 470 | $ | $ 1 |
| Farm buildings | | 714 | | 16 |
| Horses | | 6 | | 16 |
| Prod. l.s.: Cattle | | 3404 | | 6444 |
| Dairy sales | -- | -- | | 2532 |
| Hogs | | 378 | | 4921 |
| Sheep | | 408 | | 699 |
| Poultry | | 76 | | 315 |
| Egg sales | -- | -- | | 580 |
| Total productive livestock | ( ) | ( 4266 ) | ( ) | ( 15491 |
| Feed, grain, and seeds | | 2192 | | 2078 |
| Machinery and equipment | | 2137 | | 314 |
| Automobile (farm share) | | 210 | | 18 |
| Livestock expense | | 138 | -- | -- |
| A.A.A. receipts | -- | -- | | 68 |
| Labor | | 619 | | 26 |
| Taxes | | 325 | -- | -- |
| Miscellaneous | | 52 | | 2 |
| Totals | $ | $ 11129 | $ | $ 18030 |

| Item | Earnings | | | | | |
|---|---|---|---|---|---|---|
| | Your farm | Annual averages | | | | |
| | | 1946 | 1945 | 1944 | 1943 | 1942* |
| Cash balance | $ | $6901 | $5368 | $5785 | $6072 | $4547 |
| Inventory change | | 2508 | 316 | -15 | 837 | 2359 |
| Farm products used in household | | 445 | 393 | 362 | 376 | 330 |
| RECEIPTS LESS EXPENSES | $ | $9854 | $6077 | $6132 | $7285 | $7236 |
| Family labor | | 560 | 552 | 497 | 440 | 276 |
| RETURN FOR CAPITAL, LABOR & MGT. | $ | $9294 | $5525 | $5635 | $6845 | $6960 |
| Operator's labor | | 1524 | 1501 | 1377 | 1157 | 798 |
| NET EARNINGS (Return for cap. & mgt.) | $ | $7770 | $4024 | $4258 | $5688 | $6162 |
| RATE EARNED ON INVESTMENT | % | 20.7% | 11.0% | 11.3% | 15.5% | 17.4% |
| Interest on investment at 5 percent | $ | $1874 | $1822 | $1886 | $1838 | $1772 |
| LABOR AND MANAGEMENT EARNINGS | | 7420 | 3703 | 3749 | 5007 | 5188 |

*Includes Farm Bureau Farm Management Service records

Change in grain inventories. The inventory increase of $2,508 in 1946 (Table 2) was due, in part, to an increase of 459 bushels of corn at the end of the year as compared with the beginning of the year. This increase as well as other changes in grain supplies are shown in the following table:

| | January 1, 1946 Bushels | December 31, 1946 Bushels | Change Bushels |
|---|---|---|---|
| Corn | 2,286 | 2,745 | +459 |
| Oats | 1,440 | 1,140 | -300 |
| Soybeans | 15 | 18 | + 3 |

Size of farm. Table 3 shows averages for farms of about the same size as your farm. Thus, you may find out whether you were high or low in 1946 in such factors as labor and management earnings, building cost per acre, and feed fed per acre.

In comparing labor and management earnings for the various size groups, you should consider that, in general, such earnings increase as the size of farms increase when average earnings are high as in 1946, but that this earning situation is reversed when average earnings are extremely low as in 1932 and 1933.

TABLE 3.--FARM EARNINGS AND OTHER FACTORS RELATED TO SIZE OF FARM
Accounting Farms in Farming-Type Area 2, 1946

| Item | Total acres in farm | | | | |
|---|---|---|---|---|---|
| | 66 to 120 | 121 to 200 | 201 to 280 | 281 to 360 | 361 to 440 |
| Number of farms | 15 | 47 | 29 | 8 | 7 |
| Acres in farm | 96 | 160 | 236 | 318 | 413 |
| Acres in crops | 69 | 114 | 167 | 195 | 290 |
| Rate earned on investment | 19.8% | 22.0% | 20.3% | 19.0% | 20.1% |
| Labor and mgt. earnings | $4463 | $6795 | $8092 | $8064 | $14426 |
| Net earnings per acre | 40.45 | 42.73 | 36.83 | 28.08 | 41.44 |
| Labor cost per crop acre | $ 29.46 | $ 20.37 | $ 17.22 | $ 17.21 | $ 16.90 |
| Total months of labor | 15.6 | 18.3 | 21.9 | 25.7 | 33.9 |
| Power & machinery cost per crop acre | $ 16.65 | $ 14.10 | $ 12.14 | $ 12.98 | $ 10.77 |
| Buildings cost per acre | 3.11 | 2.38 | 2.09 | 1.19 | 2.97 |
| Feed fed per acre | $ 43.45 | $ 40.97 | $ 35.34 | $ 39.49 | $ 39.93 |

Land use and crop yields. As the average per-acre value of improved land creased from $41 to $148, the tillable land increased from 60 percent to 94.8 percen the tillable land in grain crops increased from 63.9 percent to 78.7 percent, and th net earnings per acre increased from $19.09 to $57.78. Farms with low-valued land ($41 an acre) had the largest percentage of land in other crops including idle land. The farms with improved land averaging $148 an acre had the highest net earnings per acre.

In general, the highest crop yields were recorded on the high-valued land. The differences in average per-acre yields between farms averaging $41 an acre and t averaging $148 an acre were: corn, 15.9 bushels; oats, 13.3 bushels; and soybeans, bushels.

TABLE 4.--USE OF TILLABLE LAND AND OTHER FACTORS RELATED TO VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 2, 1946

| Item | Value of improved land | | | | | |
|---|---|---|---|---|---|---|
| | $27 to 52 | $53 to 72 | $73 to 92 | $93 to 112 | $113 to 132 | $133 t 175 |
| Number of farms................ | 9 | 20 | 23 | 23 | 19 | 12 |
| Value of improved land......... | $ 41 | $ 64 | $ 84 | $102 | $124 | $148 |
| Total investment per acre...... | 98 | 141 | 159 | 185 | 245 | 275 |
| Acres in farm.................. | 205 | 175 | 194 | 206 | 227 | 199 |
| Rate earned on investment...... | 19.5% | 24.3% | 21.1% | 20.9% | 18.7% | 21.0 |
| Percent of land area tillable.. | 60 | 76.9 | 79.0 | 83.4 | 91.9 | 94.8 |
| Percent of tillable land in: | | | | | | |
| Corn........................ | 41.0 | 38.8 | 38.8 | 42.2 | 45.6 | 50.5 |
| Oats........................ | 19.7 | 23.0 | 22.4 | 23.2 | 23.3 | 26.0 |
| Wheat....................... | .5 | .1 | .2 | 1.4 | .8 | -- |
| Soybeans for grain.......... | 2.7 | 1.2 | 1.7 | 1.6 | 6.0 | 2.2 |
| Hay & Pas. (incl. cl. & gr. seed)........... | 33.0 | 36.5 | 35.3 | 31.0 | 23.0 | 20.2 |
| Other crops (incl. idle till. land).......... | 3.1 | .4 | 1.6 | .6 | 1.3 | 1.1 |
| Crop yields: | | | | | | |
| Corn, bu. .................. | 55.0 | 64.6 | 61.8 | 68.4 | 66.0 | 70.9 |
| Oats, bu. .................. | 47.9 | 54.0 | 49.4 | 52.3 | 59.8 | 61.2 |
| Wheat, bu. ................. | 12.5 | 25.0 | 30.0 | 34.3 | 30.0 | -- |
| Soybeans, bu. .............. | 26.7 | 17.3 | 25.8 | 22.8 | 24.8 | 30.8 |
| Gross earnings per acre........ | $ 43.24 | $ 69.29 | $ 64.81 | $ 68.12 | $ 85.12 | $ 93.1 |
| Gross expense per acre......... | 24.15 | 35.11 | 31.23 | 29.48 | 39.32 | 35.3 |
| Net earnings per acre.......... | $ 19.09 | $ 34.18 | $ 33.58 | $ 38.64 | $ 45.80 | $ 57.7 |
| Land improvement cost per acre. | $ .88 | $ 1.46 | $ 1.94 | $ 1.66 | $ 2.12 | $ 1.5 |
| Land tax per acre.............. | .88 | 1.21 | 1.18 | 1.32 | 1.64 | 1.4 |

Source of income. Relative profits from various types of farming change from year to year, depending on conditions affecting production and prices. Therefore, averages for one year should not be used as the basis for reorganizing the farm business. In 1946, conditions did not favor any one system of farming (Table 5).

TABLE 5.--FARM EARNINGS AND OTHER FACTORS RELATED TO SOURCE OF INCOME
Accounting Farms in Farming-Type Area 2, 1946

| Item | Source of income | | | |
|---|---|---|---|---|
| | Dairy 40%+ | Hogs 40%+ | Cattle and hogs 60%+a/ | General farms |
| Number of farms.................... | 16 | 26 | 24 | 40 |
| Acres in farm...................... | 174 | 183 | 213 | 215 |
| Rate earned on investment.......... | 23.3% | 20.8% | 21.3% | 19.6% |
| Feed fed per acre to prod. l.s. ... | $ 38.21 | $ 37.92 | $ 46.09 | $ 35.66 |
| Returns per $100 feed fed.......... | 194 | 165 | 154 | 157 |
| Number of cows milked.............. | 21.4 | 11.9 | 8.5 | 11.9 |
| Dairy returns per cow milked....... | $319 | $251 | $205 | $246 |
| Number of litters farrowed......... | 13.8 | 21.7 | 21.9 | 13.1 |
| Number of pigs weaned per litter... | 6.2 | 7.0 | 6.6 | 6.3 |
| Returns per litter farrowed........ | $301 | $338 | $341 | $287 |
| Number of hens..................... | 195 | 105 | 108 | 163 |
| Egg returns per hen................ | $ 4.27 | $ 4.25 | $ 4.04 | $ 4.58 |

a/ Not less than 20% from either source

Labor, power and machinery costs. Table 6 provides standards for comparing costs on your farm with farms similar in size and in amounts of feed fed per acre. The lowest costs were for large farms with the least livestock, and the highest costs were for large farms with the least livestock, and the highest costs were for small farms with the most livestock. Labor costs were much higher than power and machinery costs.

TABLE 6.--LABOR COST AND POWER AND MACHINERY COST PER CROP ACRE FOR DIFFERENT SIZE FARMS AND DIFFERENT AMOUNTS OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 2, 1946

| Acres per farm | Feed fed per acre | | | | Feed fed per acre | | | |
|---|---|---|---|---|---|---|---|---|
| | Less than $24.00 | $24.00 to $35.99 | $36.00 to $47.99 | $48.00 or more | Less than $24.00 | $24.00 to $35.99 | $36.00 to $47.99 | $48.00 or more |
| | (labor cost per crop acre) | | | | (Power and machinery cost per crop acre) | | | |
| 66 to 120 | $19.00 | $20.10 | $22.30 | $24.00 | $14.00 | $15.00 | $16.50 | $17.40 |
| 121 to 200 | 17.00 | 18.50 | 19.00 | 20.00 | 12.00 | 13.50 | 14.50 | 15.00 |
| 201 to 250 | 16.00 | 17.50 | 18.00 | 19.40 | 10.00 | 11.50 | 12.80 | 14.30 |
| 281 to 440 | 14.00 | 17.00 | 17.50 | 18.00 | 9.50 | 10.00 | 11.70 | 13.50 |

# FIGURING PLANT FOOD LOSSES AND GAINS ON YOUR FARM FOR 1946

Follow the instructions and tables on opposite page for making calculatio
Use your 1946 farm account book to get amount of:

| | |
|---|---|
| Home-grown crops sold | Page 29, lines 5 and 14 |
| fed | Page 29, line 19 |
| pastured | Page 21 |
| plowed under | Pages 20 and 21 |
| Feeds bought | Pages 24 and 25 |
| Fertilizers bought | Pages 2 and 3 |

| | Use | Amount | Nitrogen | | Phosphorus | | Potassium | |
|---|---|---|---|---|---|---|---|---|
| Item | Sold, fed, pastured, plowed | Bushels or Tons | Gain | Loss | Gain | Loss | Gain | Loss |
| Home-grown crop: | | | lb. | lb. | lb. | lb. | lb. | lb. |
| | | | | | | | | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | | | |
| Feeds bought: | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Fertilizers bought: | XX | | | | | | | |
| | XX | | | | | | | |
| | XX | | | | | | | |
| Total | | | | | | | | |
| Place smaller under larger | | | | | | | | |
| Net gain (+) or loss (-) | | | | | | | | |

# GAINS AND LOSSES OF PLANT FOOD

From the following tables you can calculate how much nitrogen, phosphorus, and potassium different crops take from the soil and how much is returned by plowing under legumes and by feeding home-grown crops and purchased feeds. No allowance has been made for plant-food losses from erosion or leaching or for losses of organic matter.

To find the gain or loss multiply the number of units by the pounds of nitrogen, phosphorus, and potassium in one unit. For example, a thousand bushels of corn harvested and sold takes 920 pounds of nitrogen (1,000 × .92), 160 pounds of phosphorus (1,000 × .16), and 200 pounds of potassium (1,000 × .20) from the soil. Ten tons of red clover plowed under, on the other hand, adds 408 pounds of nitrogen without changing the amount of phosphorus or potassium in the soil.

To calculate the pounds of plant-food elements added by using commercial fertilizers, you need to know how much fertilizer is added and its chemical analysis. Five thousand pounds of 3-12-12 fertilizer, for example, will add 150 pounds of nitrogen, 600 pounds of phosphoric acid (262 pounds of phosphorus), and 600 pounds of potash (498 pounds of potassium). Phosphoric acid, $P_2O_5$, contains only 43.6 percent phosphorus, P; and potash, $K_2O$, contains only 83 percent potassium, K.

In figuring the amount of rock phosphate used, take 10 percent of the total amount applied during the past ten years because rock phosphate is a long-time fertilizer.

### Gains or Losses of Nitrogen, Phosphorus, and Potassium When Home-Grown Crops Are Sold, Plowed Under, Fed, or Pastured[a]

(+ = gains; — = losses)

| Kind of crop | Crop unit | Nitrogen (N) | | | | Phosphorus (P) | | | Potassium (K) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sold | Fed | Pastured | Plowed under | Sold | Fed | Pastured | Sold | Fed | Pastured |
| | | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* |
| Corn, grain | 1 bu. | — .92 | — .46 | ...... | ...... | — .16 | — .07 | ..... | — .20 | — .08 | ...... |
| stover | 65 lb.[b] | — .55 | — .28 | ...... | ...... | — .58 | — .26 | ..... | — .58 | — .23 | ...... |
| silage | 1 ton | — 8.00 | — 4.00 | ...... | ...... | —1.20 | — .54 | ..... | — 5.60 | —2.24 | ...... |
| Oats, grain | 1 bu. | — .61 | — .30 | ...... | ...... | — .11 | — .05 | ..... | — .15 | — .06 | ...... |
| straw | 35 lb.[b] | — .22 | — .11 | ...... | ...... | — .04 | — .02 | ..... | — .43 | — .17 | ...... |
| Wheat, grain | 1 bu. | — 1.20 | — .60 | ...... | ...... | — .23 | — .10 | ..... | — .27 | — .11 | ...... |
| straw | 100 lb.[b] | — .54 | — .27 | ...... | ...... | — .08 | — .04 | ..... | — .72 | — .29 | ...... |
| Soybeans, grain | 1 bu. | — 1.00 | + .90 | ...... | ...... | — .37 | — .17 | ..... | — .92 | — .37 | ...... |
| straw | 120 lb.[b] | — .50 | + .60 | ...... | + 1.20 | — .16 | — .07 | ..... | — .49 | — .24 | ...... |
| hay | 1 ton | —13.60 | +18.40 | ...... | + 36.80 | —5.40 | —2.43 | ..... | —21.20 | —8.48 | ...... |
| Alfalfa hay | 1 ton | — 3.70 | +26.00 | +39.00 | + 52.00 | —4.80 | —2.16 | —.96 | —27.00 | —10.80 | —2.70 |
| Red clover hay | 1 ton | — 2.20 | +20.40 | +30.60 | + 40.80 | —4.20 | —1.89 | —.84 | —29.40 | —11.76 | —2.94 |
| Lespedeza hay | 1 ton | —11.00 | +16.00 | +24.00 | + 32.00 | —5.20 | —2.34 | —1.04 | —16.00 | —6.40 | —1.60 |
| Sweet clover: | | | | | | | | | | | |
| Fall, first year | 1 ton[c] | ...... | ...... | ...... | +100.00 | ...... | ...... | ..... | ...... | ...... | ...... |
| Spring, second year | 1 ton[c] | ...... | ...... | ...... | +115.00[d] | ...... | ...... | ..... | ...... | ...... | ...... |
| Fall, second year | 1 ton[c] | ...... | ...... | +26.00 | + 35.00 | ...... | ...... | —.68 | ...... | ...... | —3.70 |
| Redtop hay | 1 ton | —22.50 | —11.25 | — 5.62 | ...... | —3.80 | —1.71 | —.72 | —31.20 | —12.48 | —3.12 |
| Timothy hay | 1 ton | —23.20 | —11.60 | — 5.80 | ...... | —3.40 | —1.53 | —.68 | —23.60 | —9.44 | —2.36 |

[a] Feed fed to livestock, with average methods of handling manure, results in a return to the soil of about 50 percent of the nitrogen, 55 percent of the phosphorus, and 60 percent of the potassium contained in the feed. Pasturing off a crop increases the percentages of plant food returned to the soil to about 75 percent for nitrogen, 80 percent for phosphorus, and 90 percent for potassium.

[b] Roughage production is for one bushel of grain on fertile soil.

[c] Use dry hay values. Average production per acre for a thick stand and heavy growth of sweet clover is: Fall first year, 1 ton if seeded with a nurse crop or 1½ tons if seeded alone; second year after July 1, 4½ tons.

[d] Nitrogen gains *per acre* are essentially the same whether the crop is plowed under in late fall of the first year or in the spring of the second year (top growth is less in spring).

### Gains in Nitrogen, Phosphorus, and Potassium From Purchased Feeds When Manure Is Returned to the Soil

| Kind of feed | Unit | Nitrogen (N) | Phosphorus (P) | Potassium (K) |
|---|---|---|---|---|
| | | *lb.* | *lb.* | *lb.* |
| Corn | 1 bu. | .46 | .09 | .12 |
| Oats, grain | 1 bu. | .30 | .06 | .09 |
| Wheat, grain | 1 bu. | .60 | .13 | .16 |
| Wheat bran | 100 lb. | 1.26 | .72 | .74 |
| Wheat middlings | 100 lb. | 1.36 | .40 | .53 |
| Soybean meal | 100 lb. | 3.54 | .33 | 1.32 |
| Linseed meal | 100 lb. | 3.08 | .40 | .66 |
| Cottonseed meal | 100 lb. | 3.45 | .61 | .81 |
| Tankage | 100 lb. | 4.90 | 1.88 | .33 |
| Timothy hay | 1 ton | 11.60 | 1.87 | 14.16 |
| Soybean hay | 1 ton | 25.20 | 2.97 | 12.72 |
| Alfalfa hay | 1 ton | 27.60 | 2.64 | 16.20 |
| Red clover hay | 1 ton | 21.50 | 2.31 | 17.64 |
| Lespedeza hay | 1 ton | 21.50 | 2.86 | 9.60 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United Stat
Department of Agriculture cooperating. H. P. RUSK, *Director*. Acts approved by Congress May 8 and June 30, 1914.

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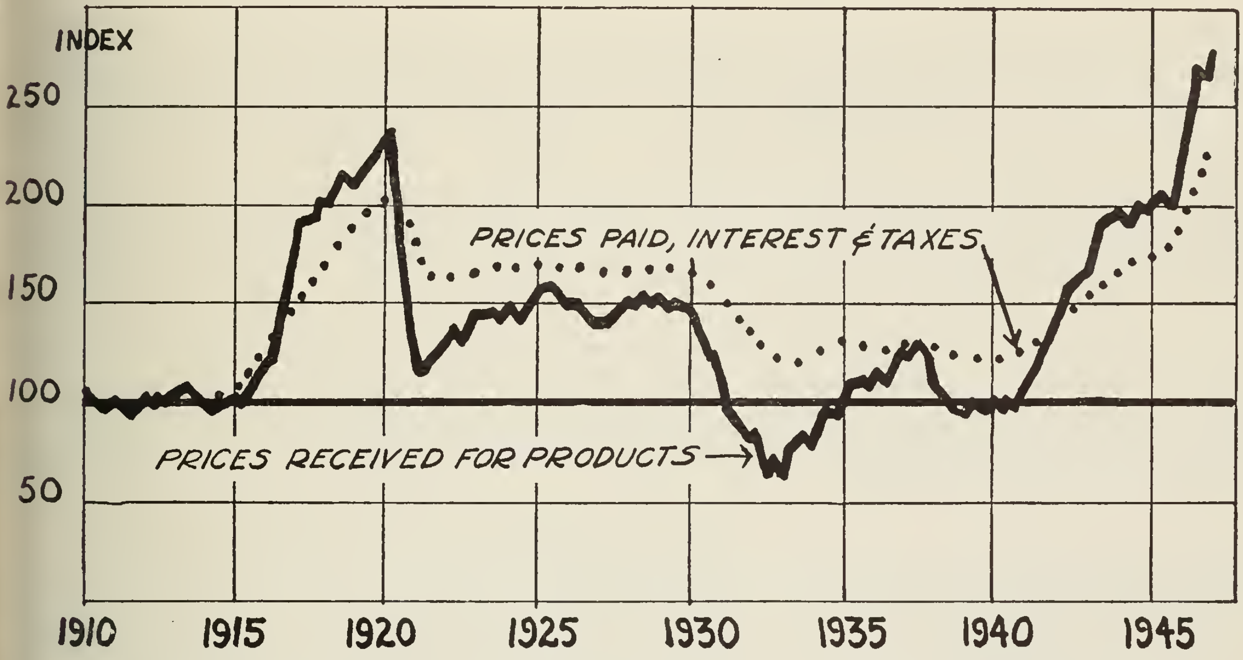
# YOUR FARM BUSINESS REPORT . . . . . 1946



PRICES RECEIVED AND PAID BY FARMERS, INDEX NUMBERS, U.S., 1910-14 = 100

Prices received by farmers rose sharply in 1946. In October the index had risen to 273, the highest level on record. After a decline to 260 in January the index rose to another record of 280 on March 15, 1947. Although the index of prices paid also rose sharply in 1946, the ratio of prices received to prices paid reached a peak of 132 in October. Since October prices paid by farmers have risen more rapidly than prices received; on March 15, 1947, the ratio of prices received to prices paid was 122.

## FARMING-TYPE AREA THREE

## Western Livestock and Grain Area

NAME____________________

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URBANA, ILLINOIS

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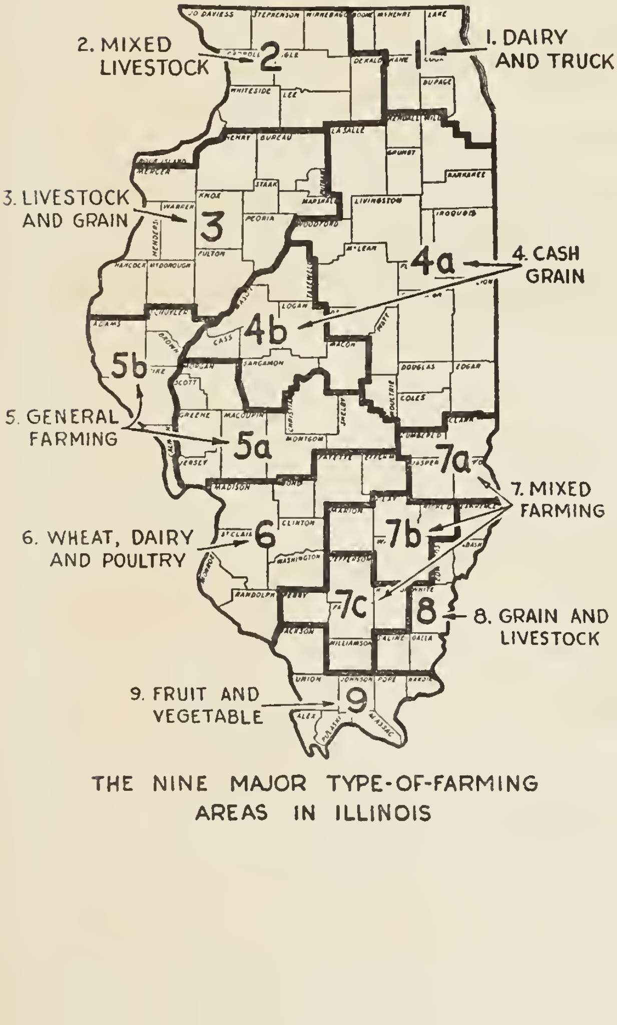
URBANA, ILLINOIS

DEPARTMENT *of*
AGRICULTURAL ECONOMICS

Dear Cooperator:

This is the thirty-first annual report of farm account records kept by Illinois farmers enrolled in the farm accounting extension project conducted by this department. The earnings on farms, both during World War I and World War II, show some interesting comparisons. The earnings in 1946 for Illinois as a whole were the highest of any year during the period. The advance in prices of farm products was so great when price restrictions were removed that differences in earnings between farms were due more to differences in prices received than to any other single factor. This is indicated in part by the chart on the front cover.

In spite of differences in earnings due to price changes, it should be emphasized that "Good Farming Paid." Profitable farming in Illinois will always depend upon the wise choice of crops to be grown, good yields, the production of livestock when well managed, and a careful control of expenses for labor, power, equipment, and other costs.



THE NINE MAJOR TYPE-OF-FARMING AREAS IN ILLINOIS

In addition to serving the purpose of studying your business and planning your farming operations for the future, farm records are a valuable guide for adjusting farm leases or father-son business agreements especially in periods of rapidly changing conditions.

The form for figuring the plant food balance for your farm and the directions for making the study on the last two pages of this report merit careful study. The heavy production of grain throughout the war years has been a severe drain on the fertility of Illinois farms. Future economical production requires replacing much of the plant food removed through heavy cropping if large yields are to be attained.

The map on this page will identify the area for which this report is prepared.

We trust that this report will prove valuable to you.

Very truly yours,

H. C. M. CASE
Head of Department

Annual Farm Business Report

# ONE HUNDRED FIFTY-TWO FARMS IN FARMING-TYPE AREA 3, 1946

J. B. Cunningham, A. T. Anderson, and A. G. Mueller[1]

Because of a favorable crop season and high prices (see front cover) net farm earnings on accounting farms in Farming-Type Area 3 were the highest on record. Corn acreage was larger than in 1945 and the average yield of 67.5 bushels an acre was one of the highest ever recorded on accounting farms in the area.

Cash receipts per farm averaged $15,598 (Table 2), $853 higher than in 1945. Crop sales increased by $1,242 but this increase was offset in part by a decrease of $433 in livestock sales. Cash expenses per farm averaged $8,527, a decrease of $708 from the 1945 figure. The decrease was a result of fewer feeder cattle purchases and a decrease in feed and grain purchases.

Expenses for land improvements and machinery, capital items hard to get during the war, increased in 1946. The average cash balance was $7,071, $1,551 more than in 1945. In addition to a larger cash balance, there was an inventory increase of $2,467 in 1946.

Averages presented in this report provide good standards for measuring your efficiency. From Tables 1 through 5 you may determine where your returns were above or below the average of other farms in your area. Where efficiency factors are influenced by size of farm, value of land, or sources of income, the records have been sorted into groups and averages presented for each group.

The accounting farms in this report were larger than the average of all the farms in the area; the crop yields were above average; and the farm operators were more skillful than average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

---

[1] In cooperation with the following farm advisers:

| | | | |
|---|---|---|---|
| Bureau | H. L. Miles | Marshall-Putnam | L. J. Hager |
| Fulton | J. E. Watt | McDonough | R. G. Benbow |
| Hancock | L. L. Norton | Mercer | E. M. Edwards |
| Henderson | A. J. Rehling | Peoria | J. L. Diamond |
| Henry | K. L. Flake | Stark | W. A. Gilbert |
| Knox | A. R. Kemp | Warren | E. H. Walworth |

Table 1.--FACTORS USED TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 3, 1946

| Item | Your farm | Standards for your farm | Average of 152 farms |
|---|---|---|---|
| (Those capitalized used in chart on opposite page) | | | |
| RATE EARNED ON INVESTMENT | ____ % | 21.4 % | 21.4 % |
| Labor and management earnings | $____ | $____ c/ | $7672 |
| ACRES IN FARM | ____ | 224 | 224 |
| Acres in crops | ____ | 151 | 151 |
| GROSS EARNINGS PER ACRE | $____ | $____ a/ | $ 62.55 |
| GROSS EXPENSE PER ACRE | ____ | ____ | 26.44 |
| Net earnings per acre | $____ | $____ | $ 36.11 |
| Investments | | | |
| Value of improved land per acre | $____ | $____ a/ | $ 108 |
| Total investment per acre | ____ | ____ | 169 |
| Land use | | | |
| Percent of land area tillable | ____ | ____ a/ | 79.2 |
| Percent of tillable land in: | | | |
| Corn | ____ | ____ a/ | 42.1 |
| Oats | ____ | ____ | 21.1 |
| Wheat | ____ | ____ | 1.3 |
| Soybeans for grain | ____ | ____ | 8.8 |
| HAY AND PASTURE (incl. cl. & gr. seed crops) | ____ | ____ | 24.8 |
| Other crops (includes idle tillable land) | ____ | ____ | 1.9 |
| Crop yields | | | |
| CORN, BU. | ____ | ____ a/ | 67.5 |
| OATS, BU. | ____ | ____ | 49.9 |
| WHEAT, BU. | ____ | ____ | 26.5 |
| SOYBEANS, BU. | ____ | ____ | 28.8 |
| Livestock factors | | | |
| FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK | $____ | $____ b/ | $ 29.53 |
| RETURNS PER $100 FEED FED | $____ | $____ | $ 156 |
| Number of cows milked | ____ | ____ | 7.2e/ |
| DAIRY RETURNS PER COW MILKED | $____ | $____ | $ 192 |
| Number of litters farrowed | ____ | ____ | 23.3f/ |
| NUMBER OF PIGS WEANED PER LITTER | ____ | ____ | 6.7 |
| Returns per litter farrowed | $____ | $____ | $ 302 |
| Number of hens | ____ | ____ | 120 g/ |
| EGG RETURNS PER HEN | $____ | $____ | $ 4.01 |
| Expense factors | | | |
| Labor: COST PER CROP ACRE | $____ | $____ d/ | $ 17.00 |
| " Total months of labor | ____ | ____ c/ | 20 |
| POWER AND MACHINERY COST PER CROP ACRE | $____ | $____ d/ | $ 11.82 |
| Land improvement cost per acre | ____ | ____ a/ | 1.22 |
| BUILDINGS COST PER ACRE | ____ | ____ c/ | 1.50 |
| Land tax per acre | ____ | ____ a/ | 1.23 |

a/ Table 4, value of improved land.
b/ Table 5, source of income.
c/ Table 3, size of farm.
d/ Table 6, size of farm and amount of feed fed per acre.
e/ Farms with over $299 dairy sales.
f/ Farms buying feeder pigs excluded.
g/ Farms with more than 49 hens.

## USE THIS CHART TO STUDY YOUR BUSINESS
Accounting Farms in Farming-Type Area 3, 1946

The double line across the middle of the page represents the average for farms which are similar to your farm for the indicated factor. By drawing a line across each column at the place where your farm stands in that factor, you can compare your effeciency with that of other similar accounting farms in your area.

| | | | | Factors that affect earnings | | | | | | | | | | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Crop yields | | | | Livestock | | | | | | | |
| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Gross expenses per acre | Percent of tillable land in hay and pasture | Corn, bu. | Oats, bu. | Wheat, bu. | Soybeans, bu. | Feed fed per acre to prod. livestock | Returns per $100 feed fed prod. l.s. | Dairy returns per cow milked | No. of pigs weaned per litter | Egg returns per hen | Labor cost per crop acre | Power and machinery cost per crop acre | Buildings cost per acre |
| 36.4 | 374 | | | | | | | | | | | | | | | |
| 33.4 | 344 | | | | | | | | | | | | | | | |
| 30.4 | 314 | | | | | | | | | | | | | | | |
| 27.4 | 284 | | | | | | | | | | | | | | | |
| 24.4 | 254 | | | | | | | | | | | | | | | |
| 21.4 | 224 | | | | | | | | | | | | | | | |
| 18.4 | 194 | | | | | | | | | | | | | | | |
| 15.4 | 164 | | | | | | | | | | | | | | | |
| 12.4 | 134 | | | | | | | | | | | | | | | |
| 9.4 | 104 | | | | | | | | | | | | | | | |
| 6.4 | 74 | | | | | | | | | | | | | | | |
| 3.4 | | | | | | | | | | | | | | | | |
| * 3% | 30 | $3 | $2 | 2% | 2 | 2 | 1 | 1 | $2 | $20 | $20 | 1 | $.50 | $2 | $2 | $.50 |

*Each space between lines represents the value indicated at bottom of each column.

(Higher values are recorded above the center of the page and lower values below, except for expenses, which are recorded in the opposite direction).

TABLE 2.--INVESTMENTS, INVENTORY CHANGES, CASH EXPENSES, CASH RECEIPTS, AND EARNING
Accounting Farms in Farming-Type Area 3, 1946

| | Capital investments | | Change in inventory | |
|---|---|---|---|---|
| Item | Your farm | Average of 152 farms | Your farm | Average of 152 farms |
| Land | $ | $ 21472 | $ -- | $ -- |
| Land improvements | | 826 | | 172 |
| Farm buildings | | 3700 | | -40 |
| Horses | | 116 | | -34 |
| Prod. l.s.: Cattle | | 2615 | | 470 |
| Hogs | | 1985 | | 470 |
| Sheep | | 268 | | -45 |
| Poultry | | 133 | | -- |
| Total productive livestock | ( ) | ( 5001 ) | ( ) | ( 895 ) |
| Feed, grain, and seeds | | 3742 | | 1287 |
| Machinery and equipment | | 2623 | | 197 |
| Automobile (farm share) | | 190 | | -10 |
| Totals | $ | $ 37670 | $ | $ 2467 |

| | Cash expenses | | Cash receipts | |
|---|---|---|---|---|
| Item | Your farm | Average of 152 farms | Your farm | Average of 152 farms |
| Land improvements | $ | $ 454 | $ | $ 12 |
| Farm buildings | | 301 | | 5 |
| Horses | | 6 | | 16 |
| Prod. l.s.: Cattle | | 1489 | | 3020 |
| Dairy sales | -- | -- | | 878 |
| Hogs | | 302 | | 6180 |
| Sheep | | 198 | | 443 |
| Poultry | | 49 | | 205 |
| Egg sales | -- | -- | | 337 |
| Total productive livestock | ( ) | ( 2038 ) | ( ) | ( 11063 ) |
| Feed, grain, and seeds | | 2255 | | 3990 |
| Machinery and equipment | | 2005 | | 352 |
| Automobile (farm share) | | 240 | | 30 |
| Livestock expense | | 127 | -- | -- |
| A.A.A. receipts | -- | -- | | 87 |
| Labor | | 702 | | 41 |
| Taxes | | 352 | | -- |
| Miscellaneous | | 47 | | 2 |
| Totals | $ | $ 8527 | $ | $ 15598 |

| | Earnings | | | | | |
|---|---|---|---|---|---|---|
| | Your farm | Annual averages | | | | |
| Item | | 1946 | 1945 | 1944 | 1943 | 1942 |
| Cash balance | $ | $ 7071 | $ 5510 | $ 5622 | $ 5808 | $ 5933 |
| Inventory change | | 2467 | -136 | 498 | 1127 | 2565 |
| Farm products used in household | | 425 | 381 | 382 | 376 | 366 |
| RECEIPTS LESS EXPENSES | $ | $ 9963 | $ 5755 | $ 6502 | $ 7311 | $ 8864 |
| Family labor | | 407 | 363 | 394 | 336 | 271 |
| RETURN FOR CAPITAL, LABOR & MGT. | $ | $ 9556 | $ 5392 | $ 6108 | $ 6975 | $ 8593 |
| Operator's labor | | 1485 | 1406 | 1347 | 1120 | 768 |
| NET EARNINGS (Return for cap.& mgt.) | $ | $ 8071 | $ 3986 | $ 4761 | $ 5855 | $ 7825 |
| RATE EARNED ON INVESTMENT | % | 21.4% | 9.9% | 12.0% | 15.8% | 18.8 |
| Interest on investment at 5 percent | $ | $ 1884 | $ 2013 | $ 1982 | $ 1849 | $ 2085 |
| LABOR AND MANAGEMENT EARNINGS | | 7672 | 3379 | 4126 | 5126 | 6508 |

Change in grain inventories. The inventory increase of $2,467 in 1946 (Table 2) was due, in part, to an increase of 898 bushels of corn at the end of the year as compared with the beginning of the year. This increase as well as other changes in grain supplies are shown in the following table:

| | January 1, 1946 Bushels | December 31, 1946 Bushels | Change Bushels |
|---|---|---|---|
| Corn | 2,305 | 3,203 | + 898 |
| Oats | 870 | 910 | + 40 |
| Soybeans | 111 | 38 | - 73 |

Size of farm. Table 3 shows averages for farms of about the same size as your farm. Thus, you may find out whether your farm was high or low in 1946 in such factors as labor and management earnings, building cost per acre, and feed fed per acre.

In comparing labor and management earnings for the various size groups, you should consider that, in general, such earnings increase as the size of farms increase when average earnings are high as in 1946, but that this earning situation is reversed when average earnings are extremely low as in 1932 and 1933.

TABLE 3.--FARM EARNINGS AND OTHER FACTORS RELATED TO SIZE OF FARM
Accounting Farms in Farming-Type Area 3, 1946

| | Total acres in farm | | | | |
|---|---|---|---|---|---|
| Item | 79 to 120 | 121 to 200 | 201 to 280 | 281 to 360 | 361 to 582 |
| Number of farms.............. | 16 | 62 | 45 | 16 | 13 |
| Acres in farm.............. | 112 | 164 | 241 | 326 | 458 |
| Acres in crops.............. | 80 | 116 | 155 | 234 | 288 |
| Rate earned on investment.. | 20.9% | 21.4% | 20.6% | 22.4% | 22.4% |
| Labor and mgt. earnings.... | $5086 | $6479 | $7337 | $10969 | $13656 |
| Net earnings per acre...... | 41.72 | 39.54 | 32.51 | 37.40 | 33.99 |
| Labor cost per crop acre... | $ 22.66 | $ 19.42 | $ 16.93 | $ 13.47 | $ 14.14 |
| Total months of labor...... | 13.6 | 17.7 | 21.9 | 24.7 | 30.3 |
| Power & machinery cost per crop acre................ | $ 15.47 | $ 13.17 | $ 11.90 | $ 10.21 | $ 9.49 |
| Buildings cost per acre.... | 1.79 | 1.60 | 1.44 | 1.32 | 1.53 |
| Feed fed per acre.......... | 40.70 | 35.00 | 29.14 | 21.49 | 24.60 |

Land use and crop yields. As the average per-acre value of improved land i creased from $58 to $153, the tillable land increased from 61.2 percent to 87.5 perce the tillable land in grain crops increased from 70.7 percent to 77.0 percent, and the net earnings per acre increased from $20.03 to $43.62. The farms with improved land averaging $153 an acre had the highest net earnings per acre.

In general, the highest crop yields were recorded on the high-valued land. differences in average per-acre yields between farms averaging $58 an acre and those averaging $153 an acre were: corn, 10.2 bushels; oats, 1.6 bushels; and soybeans, 4. bushels.

## TABLE 4.--USE OF TILLABLE LAND AND OTHER FACTORS RELATED TO VALUE OF IMPROVED LAND

Accounting Farms in Farming-Type Area 3, 1946

| Item | Value of improved land | | | | |
|---|---|---|---|---|---|
| | $ 38 to $ 72 | $ 73 to $ 92 | $ 93 to $112 | $113 to $132 | $133 to $200 |
| Number of farms........................... | 20 | 23 | 45 | 41 | 23 |
| Value of improved land.................... | $ 58 | $ 82 | $101 | $122 | $153 |
| Total investment per acre................. | 99 | 134 | 163 | 201 | 224 |
| Acres in farm............................. | 229 | 234 | 234 | 192 | 244 |
| Rate earned on investment................. | 20.2% | 25.2% | 21.6% | 21.4% | 19.4% |
| Percent of land area tillable............. | 61.2 | 72.4 | 81.4 | 85.1 | 87.5 |
| Percent of tillable land in: | | | | | |
| Corn...................................... | 42.9 | 37.0 | 40.1 | 45.0 | 45.3 |
| Oats...................................... | 20.5 | 19.6 | 21.4 | 21.6 | 21.4 |
| Wheat..................................... | 3.2 | 2.6 | 1.5 | .5 | -- |
| Soybeans for grain........................ | 4.1 | 11.3 | 9.6 | 7.0 | 10.3 |
| Hay & Pas. (incl. cl. & gr. seed)...... | 27.5 | 28.1 | 26.4 | 24.7 | 18.6 |
| Other crops (incl. idle till. land).... | 1.8 | 1.4 | 1.0 | 1.2 | 4.4 |
| Crop yields: | | | | | |
| Corn, bu. ................................ | 60.4 | 70.2 | 65.7 | 68.7 | 70.6 |
| Oats, bu. ................................ | 50. | 46.6 | 49.1 | 51.3 | 51.6 |
| Wheat, bu. ............................... | 19.6 | 25.2 | 29.1 | 31.1 | -- |
| Soybeans, bu. ............................ | 26.7 | 27.2 | 28.6 | 29.4 | 30.7 |
| Gross earnings per acre................... | $ 44.28 | $ 57.23 | $ 61.26 | $ 73.01 | $ 70.34 |
| Gross expense per acre.................... | 24.25 | 23.53 | 26.13 | 29.91 | 26.72 |
| Net earnings per acre..................... | $ 20.03 | $ 33.70 | $ 35.13 | $ 43.10 | $ 43.62 |
| Land improvement cost per acre............ | $ 1.24 | $ 1.07 | $ 1.20 | $ 1.31 | $ 1.23 |
| Land tax per acre......................... | .90 | 1.18 | 1.28 | 1.29 | 1.34 |

Source of income. Relative profits from various types of farming change from year to year, depending on conditions affecting production and prices. Therefore, averages for one year should not be used as the basis for reorganizing the farm business. In 1946 conditions were equally favorable for each of the four type-of-farming groups in Table 5.

TABLE 5.--FARM EARNINGS AND OTHER FACTORS RELATED TO SOURCE OF INCOME
Accounting Farms in Farming-Type Area 3, 1946

| Item | Source of income | | | |
|---|---|---|---|---|
| | Grain 40% + | Hogs 40% + | Cattle and Hogs 60% + a/ | General farms |
| Number of farms.................. | 31 | 67 | 35 | 19 |
| Acres in farm.................... | 269 | 200 | 233 | 215 |
| Rate earned on investment......... | 21.0% | 22.2% | 20.9% | 22.2% |
| Feed fed per acre to prod. l.s. .. | $ 15.79 | $ 34.87 | $ 35.26 | $ 28.63 |
| Returns per $100 feed fed......... | 138 | 159 | 157 | 160 |
| Number of cows milked............. | 7.7 | 6.2 | 7.2 | 9.3 |
| Dairy returns per cow milked...... | $182 | $170 | $163 | $265 |
| Number of litters farrowed........ | 15.1 | 27.0 | 26.7 | 12.4 |
| Number of pigs weaned per litter.. | 6.4 | 6.9 | 6.5 | 6.6 |
| Returns per litter farrowed....... | $275 | $313 | $282 | $325 |
| Number of hens.................... | 125 | 115 | 124 | 124 |
| Egg returns per hen............... | $ 4.40 | $ 3.71 | $ 4.11 | $ 4.41 |

a/ Not less than 20 percent from either source.

Labor, power and machinery costs. Table 6 provides standards for comparing costs on your farm with farms similar in size and in amounts of feed fed per acre. The lowest costs were for large farms with the least livestock, and the highest costs were for small farms with the most livestock. Labor costs were much higher than power and machinery costs.

TABLE 6.--LABOR COST AND POWER AND MACHINERY COST PER CROP ACRE FOR DIFFERENT SIZE FARMS AND DIFFERENT AMOUNTS OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 3, 1946

| Acres per farm | Feed fed per acre | | | | Feed fed per acre | | | |
|---|---|---|---|---|---|---|---|---|
| | Less than $16.00 | $16.00 to $23.99 | $24.00 to $31.99 | $32.00 or more | Less than $16.00 | $16.00 to $23.99 | $24.00 to $31.99 | $32.00 or more |
| | (labor cost per crop acre) | | | | (Power and machinery cost per crop acre) | | | |
| 79 to 120 | $18.00 | $19.50 | $20.50 | $21.00 | $11.50 | $12.20 | $14.00 | $16.40 |
| 121 to 200 | 16.20 | 18.10 | 19.50 | 20.70 | 10.60 | 11.10 | 12.40 | 15.10 |
| 201 to 280 | 15.50 | 16.50 | 17.00 | 19.50 | 10.00 | 10.40 | 11.40 | 13.00 |
| 281 to 360 | 13.00 | 14.00 | 16.10 | 17.60 | 9.50 | 9.80 | 11.00 | 11.80 |
| 361 to 582 | 12.10 | 13.00 | 14.50 | 15.00 | 9.00 | 9.40 | 10.60 | 11.00 |

## FIGURING PLANT FOOD LOSSES AND GAINS ON YOUR FARM FOR 1946

Follow the instructions and tables on opposite page for making calculatio
Use your 1946 farm account book to get amount of:

| | | |
|---|---|---|
| Home-grown crops | sold | Page 29, lines 5 and 14 |
| | fed | Page 29, line 19 |
| | pastured | Page 21 |
| | plowed under | Pages 20 and 21 |
| Feeds bought | | Pages 24 and 25 |
| Fertilizers bought | | Pages 2 and 3 |

| | Use | Amount | Nitrogen | | Phosphorus | | Potassium | |
|---|---|---|---|---|---|---|---|---|
| Item | Sold, fed, pastured, plowed | Bushels or Tons | Gain | Loss | Gain | Loss | Gain | Los |
| Home-grown crop: | | | lb. | lb. | lb. | lb. | lb. | lb. |
| | | | | | | | | |
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| | | | | | | | | |
| Feeds bought: | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Fertilizers bought: | XX | | | | | | | |
| | XX | | | | | | | |
| | XX | | | | | | | |
| Total | | | | | | | | |
| Place smaller under larger | | | | | | | | |
| Net gain (+) or loss (-) | | | | | | | | |

# GAINS AND LOSSES OF PLANT FOOD

From the following tables you can calculate how much nitrogen, phosphorus, and potassium different crops take from the soil and how much is returned by plowing under legumes and by feeding home-grown crops and purchased feeds. No allowance has been made for plant-food losses from erosion or leaching or for losses of organic matter.

To find the gain or loss multiply the number of units by the pounds of nitrogen, phosphorus, and potassium in one unit. For example, a thousand bushels of corn harvested and sold takes 920 pounds of nitrogen (1,000 × .92), 160 pounds of phosphorus (1,000 × .16), and 200 pounds of potassium (1,000 × .20) from the soil. Ten tons of red clover plowed under, on the other hand, adds 408 pounds of nitrogen without changing the amount of phosphorus or potassium in the soil.

To calculate the pounds of plant-food elements added by using commercial fertilizers, you need to know how much fertilizer is added and its chemical analysis. Five thousand pounds of 3-12-12 fertilizer, for example, will add 150 pounds of nitrogen, 600 pounds of phosphoric acid (262 pounds of phosphorus), and 600 pounds of potash (498 pounds of potassium). Phosphoric acid, $P_2O_5$, contains only 43.6 percent phosphorus, P; and potash, $K_2O$, contains only 83 percent potassium, K.

In figuring the amount of rock phosphate used, take 10 percent of the total amount applied during the past ten years because rock phosphate is a long-time fertilizer.

### Gains or Losses of Nitrogen, Phosphorus, and Potassium When Home-Grown Crops Are Sold, Plowed Under, Fed, or Pastured[a]

(+ = gains; − = losses)

| Kind of crop | Crop unit | Nitrogen (N) | | | | Phosphorus (P) | | | Potassium (K) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sold | Fed | Pastured | Plowed under | Sold | Fed | Pastured | Sold | Fed | Pastured |
| | | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* |
| Corn, grain | 1 bu. | −.92 | −.46 | ...... | ...... | −.16 | −.07 | ...... | −.20 | −.08 | ...... |
| stover | 65 lb.[b] | −.55 | −.28 | ...... | ...... | −.58 | −.26 | ...... | −.58 | −.23 | ...... |
| silage | 1 ton | −8.00 | −4.00 | ...... | ...... | −1.20 | −.54 | ...... | −5.60 | −2.24 | ...... |
| Oats, grain | 1 bu. | −.61 | −.30 | ...... | ...... | −.11 | −.05 | ...... | −.15 | −.06 | ...... |
| straw | 35 lb.[b] | −.22 | −.11 | ...... | ...... | −.04 | −.02 | ...... | −.43 | −.17 | ...... |
| Wheat, grain | 1 bu. | −1.20 | −.60 | ...... | ...... | −.23 | −.10 | ...... | −.27 | −.11 | ...... |
| straw | 100 lb.[b] | −.54 | −.27 | ...... | ...... | −.08 | −.04 | ...... | −.72 | −.29 | ...... |
| Soybeans, grain | 1 bu. | −1.00 | +.90 | ...... | ...... | −.37 | −.17 | ...... | −.92 | −.37 | ...... |
| straw | 120 lb.[b] | −.50 | +.60 | ...... | +1.20 | −.16 | −.07 | ...... | −.49 | −.24 | ...... |
| hay | 1 ton | −13.60 | +18.40 | ...... | +36.80 | −5.40 | −2.43 | ...... | −21.20 | −8.48 | ...... |
| Alfalfa hay | 1 ton | −3.70 | +26.00 | +39.00 | +52.00 | −4.80 | −2.16 | −.96 | −27.00 | −10.80 | −2.70 |
| Red clover hay | 1 ton | −2.20 | +20.40 | +30.60 | +40.80 | −4.20 | −1.89 | −.84 | −29.40 | −11.76 | −2.94 |
| Lespedeza hay | 1 ton | −11.00 | +16.00 | +24.00 | +32.00 | −5.20 | −2.34 | −1.04 | −16.00 | −6.40 | −1.60 |
| Sweet clover: | | | | | | | | | | | |
| Fall, first year | 1 ton[c] | ...... | ...... | ...... | +100.00 | ...... | ...... | ...... | ...... | ...... | ...... |
| Spring, second year | 1 ton[c] | ...... | ...... | ...... | +115.00[d] | ...... | ...... | ...... | ...... | ...... | ...... |
| Fall, second year | 1 ton[c] | ...... | ...... | +26.00 | +35.00 | ...... | ...... | −.68 | ...... | ...... | −3.70 |
| Redtop hay | 1 ton | −22.50 | −11.25 | −5.62 | ...... | −3.80 | −1.71 | −.72 | −31.20 | −12.48 | −3.12 |
| Timothy hay | 1 ton | −23.20 | −11.60 | −5.80 | ...... | −3.40 | −1.53 | −.68 | −23.60 | −9.44 | −2.36 |

---

[a] Feed fed to livestock, with average methods of handling manure, results in a return to the soil of about 50 percent of the nitrogen, 55 percent of the phosphorus, and 60 percent of the potassium contained in the feed. Pasturing off a crop increases the percentages of plant food returned to the soil to about 75 percent for nitrogen, 80 percent for phosphorus, and 90 percent for potassium.

[b] Roughage production is for one bushel of grain on fertile soil.

[c] Use dry hay values. Average production per acre for a thick stand and heavy growth of sweet clover is: Fall first year, 1 ton if seeded with a nurse crop or 1½ tons if seeded alone; second year after July 1, 4½ tons.

[d] Nitrogen gains *per acre* are essentially the same whether the crop is plowed under in late fall of the first year or in the spring of the second year (top growth is less in spring).

### Gains in Nitrogen, Phosphorus, and Potassium From Purchased Feeds When Manure Is Returned to the Soil

| Kind of feed | Unit | Nitrogen (N) | Phosphorus (P) | Potassium (K) |
|---|---|---|---|---|
| | | *lb.* | *lb.* | *lb.* |
| Corn | 1 bu. | .46 | .09 | .12 |
| Oats, grain | 1 bu. | .30 | .06 | .09 |
| Wheat, grain | 1 bu. | .60 | .13 | .16 |
| Wheat bran | 100 lb. | 1.26 | .72 | .74 |
| Wheat middlings | 100 lb. | 1.36 | .40 | .53 |
| Soybean meal | 100 lb. | 3.54 | .33 | 1.32 |
| Linseed meal | 100 lb. | 3.08 | .40 | .66 |
| Cottonseed meal | 100 lb. | 3.45 | .61 | .81 |
| Tankage | 100 lb. | 4.90 | 1.88 | .33 |
| Timothy hay | 1 ton | 11.60 | 1.87 | 14.16 |
| Soybean hay | 1 ton | 25.20 | 2.97 | 12.72 |
| Alfalfa hay | 1 ton | 27.60 | 2.64 | 16.20 |
| Red clover hay | 1 ton | 21.50 | 2.31 | 17.64 |
| Lespedeza hay | 1 ton | 21.50 | 2.86 | 9.60 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United State
Department of Agriculture cooperating. H. P. RUSK, *Director.* Acts approved by Congress May 8 and June 30, 1914.

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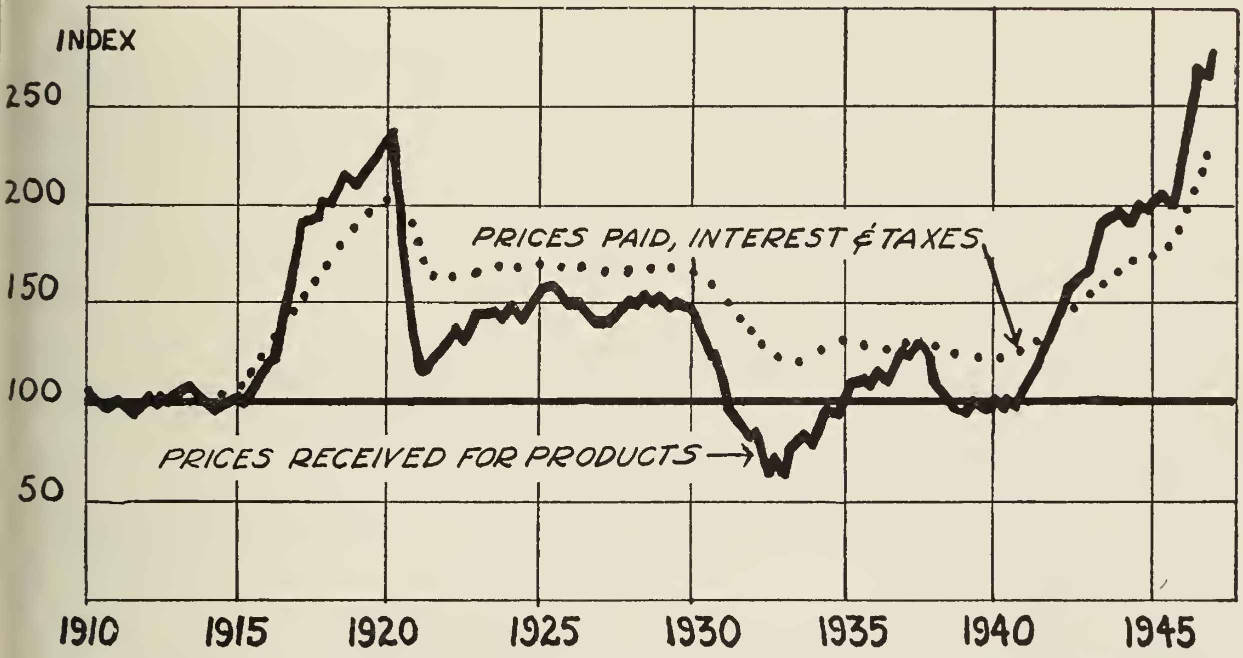
# YOUR FARM BUSINESS REPORT . . . . . 1946



PRICES RECEIVED AND PAID BY FARMERS, INDEX NUMBERS, U.S., 1910-14 = 100

Prices received by farmers rose sharply in 1946. In October the index had risen to 273, the highest level on record. After a decline to 260 in January the index rose to another record of 280 on March 15, 1947. Although the index of prices paid also rose sharply in 1946, the ratio of prices received to prices paid reached a peak of 132 in October. Since October prices paid by farmers have risen more rapidly than prices received; on March 15, 1947, the ratio of prices received to prices paid was 122.

## FARMING-TYPE AREA TWO

## Northwestern Mixed Livestock Area

NAME______________________________

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AGRICULTURAL ECONOMICS

Dear Cooperator:

This is the thirty-first annual report of farm account records kept by Illinois farmers enrolled in the farm accounting extension project conducted by this department. The earnings on farms, both during World War I and World War II, show some interesting comparisons. The earnings in 1946 for Illinois as a whole were the highest of any year during the period. The advance in prices of farm products was so great when price restrictions were removed that differences in earnings between farms were due more to differences in prices received than to any other single factor. This is indicated in part by the chart on the front cover.

In spite of differences in earnings due to price changes, it should be emphasized that "Good Farming Paid." Profitable farming in Illinois will always depend upon the wise choice of crops to be grown, good yields, the production of livestock when well managed, and a careful control of expenses for labor, power, equipment, and other costs.

In addition to serving the purpose of studying your business and planning your farming operations for the future, farm records are a valuable guide for adjusting farm leases or father-son business agreements especially in periods of rapidly changing conditions.

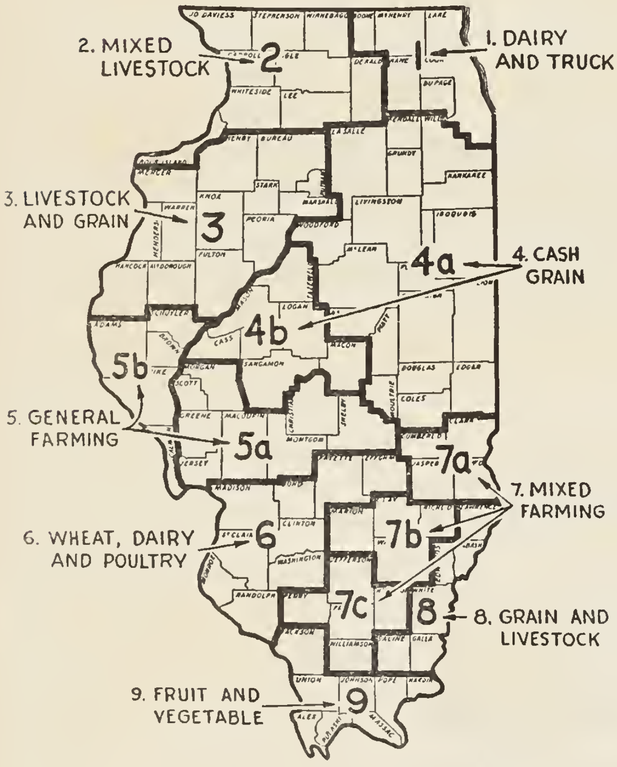
The form for figuring the plant food balance for your farm and the directions for making the study on the last two pages of this report merit careful study. The heavy production of grain throughout the war years has been a severe drain on the fertility of Illinois farms. Future economical production requires replacing much of the plant food removed through heavy cropping if large yields are to be attained.

The map on this page will identify the area for which this report is prepared.

We trust that this report will prove valuable to you.

Very truly yours,

H. C. M. CASE
Head of Department



THE NINE MAJOR TYPE-OF-FARMING AREAS IN ILLINOIS

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Annual Farm Business Report

# ONE HUNDRED SIX FARMS IN FARMING-TYPE AREA 2, 1946

J. B. Cunningham, A. T. Anderson, and A. G. Mueller[1]

Because of a favorable crop season and high prices (see front cover) net farm earnings on accounting farms in northwestern Illinois in 1946 were the highest on record. Corn acreage was larger than in 1945, and the average yield of 65.7 bushels an acre was one of the highest ever recorded for accounting farms in this area.

Cash receipts per farm averaged $18,030 (Table 2), $4,526 higher than in 1945. Increased sales of livestock, particularly cattle and hogs, accounted for $4,101 of this increase. Cash expenses per farm averaged $11,129, an increase of $2,993 over the 1945 figure. The increase was the result of more cattle purchases and increased purchases of land improvements, buildings and machinery, items that were hard to get during the war years.

Cash balance per farm averaged $6,901, $1,533 more than in 1945. Although cash expenses increased in 1946, increased cash sales more than offset the added expenses. In addition to a larger cash balance, there was an inventory increase of $2,508 in 1946.

Averages presented in this report provide good standards for measuring your efficiency. From Tables 1 through 5 you may determine where your returns were above or below the average of other farms in your area. Where efficiency factors are influenced by size of farm, value of land, or sources of income, the records have been sorted into groups and averages presented for each group.

The accounting farms in this report were larger than the average of all the farms in the area; the crop yields were above average; and the farm operators were more skillful than average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

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[1] In cooperation with the following farm advisers:

| | | | |
|---|---|---|---|
| Carroll | M. P. Roske | Rock Island | G. H. Reid |
| DeKalb | W. C. Mummert | Stephenson | V. J. Banter |
| Jo Daviess | E. V. Stadel | Whiteside | F. H. Shuman |
| Lee | C. E. Yale | Winnebago | H. R. Brunnemeyer |
| Ogle | D. E. Warren | | |

## TABLE 1.--FACTORS USED TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 2, 1946

| Item<br>(Those capitalized used in chart on opposite page) | Your farm | Standards for your farm | Average of 106 farms |
|---|---|---|---|
| RATE EARNED ON INVESTMENT | % | 20.7 % | 20.7 |
| Labor and management earnings | $ | $ c/ | $ 7420 |
| ACRES IN FARM |  | 200 | 200 |
| Acres in crops |  | 140 | 140 |
| GROSS EARNINGS PER ACRE | $ | $ a/ | $ 71.72 |
| GROSS EXPENSE PER ACRE |  |  | 32.97 |
| Net earnings per acre | $ | $ | $ 38.75 |
| **Investments** |  |  |  |
| Value of improved land per acre | $ | $ a/ | $ 99 |
| Total investment per acre |  |  | 187 |
| **Land use** |  |  |  |
| Percent of land area tillable |  | a/ | 82.4 |
| Percent of tillable land in: |  | a/ |  |
| Corn |  |  | 42.7 |
| Oats |  |  | 23.1 |
| Wheat |  |  | .6 |
| Soybeans for grain |  |  | 2.7 |
| HAY AND PASTURE (incl. cl. & gr. seed crops) |  |  | 29.5 |
| Other crops (includes idle tillable land) |  |  | 1.4 |
| **Crop yields** |  |  |  |
| CORN, BU. |  | a/ | 65.7 |
| OATS, BU. |  |  | 54.8 |
| WHEAT, BU. |  |  | 31.0 |
| SOYBEANS, BU. |  |  | 24.9 |
| **Livestock factors** |  |  |  |
| FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK | $ | $ b/ | $ 39.01 |
| RETURNS PER $100 FEED FED | $ | $ | $ 162 |
| Number of cows milked |  |  | 13.2 |
| DAIRY RETURNS PER COW MILKED | $ | $ | $ 267 |
| Number of litters farrowed |  |  | 18.2 |
| NUMBER OF PIGS WEANED PER LITTER |  |  | 6.6 |
| Returns per litter farrowed | $ | $ | $ 324 |
| Number of hens |  |  | 176 |
| EGG RETURNS PER HEN | $ | $ | $ 4.36 |
| **Expense factors** |  |  |  |
| Labor: COST PER CROP ACRE | $ | $ d/ | $ 19.16 |
| " Total months of labor |  | c/ | 20.5 |
| POWER AND MACHINERY COST PER CROP ACRE | $ | $ d/ | $ 13.06 |
| Land improvement cost per acre |  | a/ | 1.71 |
| BUILDINGS COST PER ACRE |  | c/ | 2.30 |
| Land tax per acre |  | a/ | 1.33 |

a/ Table 4, value of improved land
b/ Table 5, source of income
c/ Table 3, size of farm
d/ Table 6, size of farm and amount of feed fed per acre
e/ Farms with over $299 dairy sales
f/ Farms buying feeder pigs excluded
g/ Farms with more than 49 hens

## USE THIS CHART TO STUDY YOUR BUSINESS
## Accounting Farms in Farming-Type Area 2, 1946

The double line across the middle of the page represents the average for farms which are similar to your farm for the indicated factor. By drawing a line across each column at the place where your farm stands in that factor, you can compare your efficiency with that of other similar accounting farms in your area.

| | | | | Factors that affect earnings | | | | | | | | | | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Crop yields | | | | | Livestock | | | | | | |
| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Gross expenses per acre | Percent of tillable land in hay and pasture | Corn, bu. | Oats, bu. | Wheat, bu. | Soybeans, bu. | Feed fed per acre to prod. livestock | Returns per $100 feed fed prod. l.s. | Dairy returns per cow milked | No. of pigs weaned per litter | Egg returns per hen | Labor cost per crop acre | Power and machinery cost per crop acre | Buildings cost per acre |
| | | | | | | | | | | | | | | | | |
| 36.7 | 320 | | | | | | | | | | | | | | | |
| 32.7 | 290 | | | | | | | | | | | | | | | |
| 28.7 | 260 | | | | | | | | | | | | | | | |
| 24.7 | 230 | | | | | | | | | | | | | | | |
| 20.7 | 200 | | | | | | | | | | | | | | | |
| 16.7 | 170 | | | | | | | | | | | | | | | |
| 12.7 | 140 | | | | | | | | | | | | | | | |
| 8.7 | 110 | | | | | | | | | | | | | | | |
| 4.7 | 80 | | | | | | | | | | | | | | | |
| .7 | 50 | | | | | | | | | | | | | | | |
| *4% | 30 | $4 | $3 | 2% | 3 bu. | 2 bu. | 1 bu. | 1 bu. | $3 | $20 | $25 | .5 | $.40 | $1 | $1 | $.25 |

*Each space between lines represents the value indicated at bottom of each column.

(Higher values are recorded above the center of the page and lower values below, except for expenses, which are recorded in the opposite direction).

TABLE 2.--INVESTMENTS, INVENTORY CHANGES, CASH EXPENSES, CASH RECEIPTS, AND EARNING
Accounting Farms in Farming-Type Area 2, 1946

| Item | Capital investments |  | Change in inventory |  |
|---|---|---|---|---|
|  | Your farm | Average of 106 farms | Your farm | Average o 106 farms |
| Land | $ | $ 18333 | $ -- | $ -- |
| Land improvements |  | 836 |  | 127 |
| Farm buildings |  | 4958 |  | 242 |
| Horses |  | 136 |  | -34 |
| Prod. l.s.: Cattle |  | 4289 |  | 466 |
| Hogs |  | 1700 |  | 663 |
| Sheep |  | 238 |  | 1 |
| Poultry |  | 225 |  | -7 |
| Total productive livestock | ( ) | ( 6452 ) | ( ) | ( 1123 |
| Feed, grain, and seeds |  | 3920 |  | 724 |
| Machinery and equipment |  | 2642 |  | 373 |
| Automobile (farm share) |  | 194 |  | 47 |
| Totals | $ | $ 37471 | $ | $ 2508 |

| Item | Cash expenses |  | Cash receipts |  |
|---|---|---|---|---|
|  | Your farm | Average of 106 farms | Your farm | Average o 106 farms |
| Land improvements | $ | $ 470 | $ | $ 1 |
| Farm buildings |  | 714 |  | 16 |
| Horses |  | 6 |  | 16 |
| Prod. l.s.: Cattle |  | 3404 |  | 6444 |
| Dairy sales | -- | -- |  | 2532 |
| Hogs |  | 378 |  | 4921 |
| Sheep |  | 408 |  | 699 |
| Poultry |  | 76 |  | 315 |
| Egg sales | -- | -- |  | 580 |
| Total productive livestock | ( ) | ( 4266 ) | ( ) | ( 15491 |
| Feed, grain, and seeds |  | 2192 |  | 2078 |
| Machinery and equipment |  | 2137 |  | 314 |
| Automobile (farm share) |  | 210 |  | 18 |
| Livestock expense |  | 138 | -- | -- |
| A.A.A. receipts | -- | -- |  | 68 |
| Labor |  | 619 |  | 26 |
| Taxes |  | 325 | -- | -- |
| Miscellaneous |  | 52 |  | 2 |
| Totals | $ | $ 11129 | $ | $ 18030 |

| Item | Earnings |  |  |  |  |  |
|---|---|---|---|---|---|---|
|  | Your farm | Annual averages |  |  |  |  |
|  |  | 1946 | 1945 | 1944 | 1943 | 1942* |
| Cash balance | $ | $6901 | $5368 | $5785 | $6072 | $4547 |
| Inventory change |  | 2508 | 316 | -15 | 837 | 2359 |
| Farm products used in household |  | 445 | 393 | 362 | 376 | 330 |
| RECEIPTS LESS EXPENSES | $ | $9854 | $6077 | $6132 | $7285 | $7236 |
| Family labor |  | 560 | 552 | 497 | 440 | 276 |
| RETURN FOR CAPITAL, LABOR & MGT. | $ | $9294 | $5525 | $5635 | $6845 | $6960 |
| Operator's labor |  | 1524 | 1501 | 1377 | 1157 | 798 |
| NET EARNINGS (Return for cap. & mgt.) | $ | $7770 | $4024 | $4258 | $5688 | $6162 |
| RATE EARNED ON INVESTMENT | % | 20.7% | 11.0% | 11.3% | 15.5% | 17.4% |
| Interest on investment at 5 percent | $ | $1874 | $1822 | $1886 | $1838 | $1772 |
| LABOR AND MANAGEMENT EARNINGS |  | 7420 | 3703 | 3749 | 5007 | 5188 |

*Includes Farm Bureau Farm Management Service records

Change in grain inventories. The inventory increase of $2,508 in 1946 Table 2) was due, in part, to an increase of 459 bushels of corn at the end of the ear as compared with the beginning of the year. This increase as well as other hanges in grain supplies are shown in the following table:

| | January 1, 1946<br>Bushels | December 31, 1946<br>Bushels | Change<br>Bushels |
|---|---|---|---|
| Corn | 2,286 | 2,745 | +459 |
| Oats | 1,440 | 1,140 | -300 |
| Soybeans | 15 | 18 | + 3 |

Size of farm. Table 3 shows averages for farms of about the same size as our farm. Thus, you may find out whether you were high or low in 1946 in such factors as labor and management earnings, building cost per acre, and feed fed per acre.

In comparing labor and management earnings for the various size groups, you should consider that, in general, such earnings increase as the size of farms in-rease when average earnings are high as in 1946, but that this earning situation is reversed when average earnings are extremely low as in 1932 and 1933.

TABLE 3.--FARM EARNINGS AND OTHER FACTORS RELATED TO SIZE OF FARM
Accounting Farms in Farming-Type Area 2, 1946

| | Total acres in farm | | | | |
|---|---|---|---|---|---|
| Item | 66 to 120 | 121 to 200 | 201 to 280 | 281 to 360 | 361 to 440 |
| Number of farms................ | 15 | 47 | 29 | 8 | 7 |
| Acres in farm.................. | 96 | 160 | 236 | 318 | 413 |
| Acres in crops................. | 69 | 114 | 167 | 195 | 290 |
| Rate earned on investment..... | 19.8% | 22.0% | 20.3% | 19.0% | 20.1% |
| Labor and mgt. earnings....... | $4463 | $6795 | $8092 | $8064 | $14426 |
| Net earnings per acre......... | 40.45 | 42.73 | 36.83 | 28.08 | 41.44 |
| Labor cost per crop acre...... | $ 29.46 | $ 20.37 | $ 17.22 | $ 17.21 | $ 16.90 |
| Total months of labor......... | 15.6 | 18.3 | 21.9 | 25.7 | 33.9 |
| Power & machinery cost per crop acre.................. | $ 16.65 | $ 14.10 | $ 12.14 | $ 12.98 | $ 10.77 |
| Buildings cost per acre....... | 3.11 | 2.38 | 2.09 | 1.19 | 2.97 |
| Feed fed per acre............. | $ 43.45 | $ 40.97 | $ 35.34 | $ 39.49 | $ 39.93 |

Land use and crop yields. As the average per-acre value of improved land creased from $41 to $148, the tillable land increased from 60 percent to 94.8 percen the tillable land in grain crops increased from 63.9 percent to 78.7 percent, and th net earnings per acre increased from $19.09 to $57.78. Farms with low-valued land ($41 an acre) had the largest percentage of land in other crops including idle land. The farms with improved land averaging $148 an acre had the highest net earnings per acre.

In general, the highest crop yields were recorded on the high-valued land. The differences in average per-acre yields between farms averaging $41 an acre and t averaging $148 an acre were: corn, 15.9 bushels; oats, 13.3 bushels; and soybeans, bushels.

TABLE 4.--USE OF TILLABLE LAND AND OTHER FACTORS RELATED TO VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 2, 1946

| Item | Value of improved land | | | | | |
|---|---|---|---|---|---|---|
| | $27 to 52 | $53 to 72 | $73 to 92 | $93 to 112 | $113 to 132 | $133 175 |
| Number of farms................ | 9 | 20 | 23 | 23 | 19 | 12 |
| Value of improved land......... | $ 41 | $ 64 | $ 84 | $102 | $124 | $148 |
| Total investment per acre...... | 98 | 141 | 159 | 185 | 245 | 275 |
| Acres in farm.................. | 205 | 175 | 194 | 206 | 227 | 199 |
| Rate earned on investment...... | 19.5% | 24.3% | 21.1% | 20.9% | 18.7% | 21.0 |
| Percent of land area tillable.. | 60 | 76.9 | 79.0 | 83.4 | 91.9 | 94.8 |
| Percent of tillable land in: | | | | | | |
| Corn........................ | 41.0 | 38.8 | 38.8 | 42.2 | 45.6 | 50.5 |
| Oats........................ | 19.7 | 23.0 | 22.4 | 23.2 | 23.3 | 26.0 |
| Wheat....................... | .5 | .1 | .2 | 1.4 | .8 | -- |
| Soybeans for grain.......... | 2.7 | 1.2 | 1.7 | 1.6 | 6.0 | 2.2 |
| Hay & Pas. (incl. cl. & gr. seed)............ | 33.0 | 36.5 | 35.3 | 31.0 | 23.0 | 20.2 |
| Other crops (incl. idle till. land).......... | 3.1 | .4 | 1.6 | .6 | 1.3 | 1.1 |
| Crop yields: | | | | | | |
| Corn, bu. .................. | 55.0 | 64.6 | 61.8 | 68.4 | 66.0 | 70.9 |
| Oats, bu. .................. | 47.9 | 54.0 | 49.4 | 52.3 | 59.8 | 61.2 |
| Wheat, bu. ................. | 12.5 | 25.0 | 30.0 | 34.3 | 30.0 | -- |
| Soybeans, bu. .............. | 26.7 | 17.3 | 25.8 | 22.8 | 24.8 | 30.8 |
| Gross earnings per acre........ | $ 43.24 | $ 69.29 | $ 64.81 | $ 68.12 | $ 85.12 | $ 93.1 |
| Gross expense per acre......... | 24.15 | 35.11 | 31.23 | 29.48 | 39.32 | 35.3 |
| Net earnings per acre.......... | $ 19.09 | $ 34.18 | $ 33.58 | $ 38.64 | $ 45.80 | $ 57.7 |
| Land improvement cost per acre. | $ .88 | $ 1.46 | $ 1.94 | $ 1.66 | $ 2.12 | $ 1.5 |
| Land tax per acre.............. | .88 | 1.21 | 1.18 | 1.32 | 1.64 | 1.4 |

Source of income. Relative profits from various types of farming change rom year to year, depending on conditions affecting production and prices. Thereore, averages for one year should not be used as the basis for reorganizing the arm business. In 1946, conditions did not favor any one system of farming (Table 5).

TABLE 5.--FARM EARNINGS AND OTHER FACTORS RELATED TO SOURCE OF INCOME
Accounting Farms in Farming-Type Area 2, 1946

| Item | Source of income | | | |
|---|---|---|---|---|
| | Dairy 40%+ | Hogs 40%+ | Cattle and hogs 60%+a/ | General farms |
| umber of farms.................... | 16 | 26 | 24 | 40 |
| cres in farm...................... | 174 | 183 | 213 | 215 |
| ate earned on investment.......... | 23.3% | 20.8% | 21.3% | 19.6% |
| Feed fed per acre to prod. l.s. ... | $ 38.21 | $ 37.92 | $ 46.09 | $ 35.66 |
| eturns per $100 feed fed.......... | 194 | 165 | 154 | 157 |
| Number of cows milked............. | 21.4 | 11.9 | 8.5 | 11.9 |
| Dairy returns per cow milked....... | $319 | $251 | $205 | $246 |
| Number of litters farrowed......... | 13.8 | 21.7 | 21.9 | 13.1 |
| Number of pigs weaned per litter... | 6.2 | 7.0 | 6.6 | 6.3 |
| Returns per litter farrowed........ | $301 | $338 | $341 | $287 |
| Number of hens.................... | 195 | 105 | 108 | 163 |
| Egg returns per hen............... | $ 4.27 | $ 4.25 | $ 4.04 | $ 4.58 |

a/ Not less than 20% from either source

Labor, power and machinery costs. Table 6 provides standards for comparing costs on your farm with farms similar in size and in amounts of feed fed per acre. The lowest costs were for large farms with the least livestock, and the highest costs were for large farms with the least livestock, and the highest costs were for small farms with the most livestock. Labor costs were much higher than power and machinery costs.

TABLE 6.--LABOR COST AND POWER AND MACHINERY COST PER CROP ACRE FOR DIFFERENT SIZE FARMS AND DIFFERENT AMOUNTS OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 2, 1946

| Acres per farm | Feed fed per acre | | | | Feed fed per acre | | | |
|---|---|---|---|---|---|---|---|---|
| | Less than $24.00 | $24.00 to $35.99 | $36.00 to $47.99 | $48.00 or more | Less than $24.00 | $24.00 to $35.99 | $36.00 to $47.99 | $48.00 or more |
| | (labor cost per crop acre) | | | | (Power and machinery cost per crop acre) | | | |
| 66 to 120 | $19.00 | $20.10 | $22.30 | $24.00 | $14.00 | $15.00 | $16.50 | $17.40 |
| 121 to 200 | 17.00 | 18.50 | 19.00 | 20.00 | 12.00 | 13.50 | 14.50 | 15.00 |
| 201 to 250 | 16.00 | 17.50 | 18.00 | 19.40 | 10.00 | 11.50 | 12.80 | 14.30 |
| 281 to 440 | 14.00 | 17.00 | 17.50 | 18.00 | 9.50 | 10.00 | 11.70 | 13.50 |

## FIGURING PLANT FOOD LOSSES AND GAINS ON YOUR FARM FOR 1946

Follow the instructions and tables on opposite page for making calculation Use your 1946 farm account book to get amount of:

| | | |
|---|---|---|
| Home-grown crops | sold | Page 29, lines 5 and 14 |
| | fed | Page 29, line 19 |
| | pastured | Page 21 |
| | plowed under | Pages 20 and 21 |
| Feeds bought | | Pages 24 and 25 |
| Fertilizers bought | | Pages 2 and 3 |

| | Use | Amount | Nitrogen | | Phosphorus | | Potassium | |
|---|---|---|---|---|---|---|---|---|
| Item | Sold, fed, pastured, plowed | Bushels or Tons | Gain | Loss | Gain | Loss | Gain | Loss |
| Home-grown crop: | | | lb. | lb. | lb. | lb. | lb. | lb. |
| | | | | | | | | |
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| | | | | | | | | |
| Feeds bought: | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Fertilizers bought: | XX | | | | | | | |
| | XX | | | | | | | |
| | XX | | | | | | | |
| Total | | | | | | | | |
| Place smaller under larger | | | | | | | | |
| Net gain (+) or loss (-) | | | | | | | | |

# GAINS AND LOSSES OF PLANT FOOD

From the following tables you can calculate how much nitrogen, phosphorus, and potassium different crops take from the soil and how much is returned by plowing under legumes and by feeding home-grown crops and purchased feeds. No allowance has been made for plant-food losses from erosion or leaching or for losses of organic matter.

To find the gain or loss multiply the number of units by the pounds of nitrogen, phosphorus, and potassium in one unit. For example, a thousand bushels of corn harvested and sold takes 920 pounds of nitrogen (1,000 × .92), 160 pounds of phosphorus (1,000 × .16), and 200 pounds of potassium (1,000 × .20) from the soil. Ten tons of red clover plowed under, on the other hand, adds 408 pounds of nitrogen without changing the amount of phosphorus or potassium in the soil.

To calculate the pounds of plant-food elements added by using commercial fertilizers, you need to know how much fertilizer is added and its chemical analysis. Five thousand pounds of 3-12-12 fertilizer, for example, will add 150 pounds of nitrogen, 600 pounds of phosphoric acid (262 pounds of phosphorus), and 600 pounds of potash (498 pounds of potassium). Phosphoric acid, $P_2O_5$, contains only 43.6 percent phosphorus, P; and potash, $K_2O$, contains only 83 percent potassium, K.

In figuring the amount of rock phosphate used, take 10 percent of the total amount applied during the past ten years because rock phosphate is a long-time fertilizer.

### Gains or Losses of Nitrogen, Phosphorus, and Potassium When Home-Grown Crops Are Sold, Plowed Under, Fed, or Pastured[a]

(+ = gains; − = losses)

| Kind of crop | Crop unit | Nitrogen (N) | | | | Phosphorus (P) | | | Potassium (K) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sold | Fed | Pastured | Plowed under | Sold | Fed | Pastured | Sold | Fed | Pastured |
| | | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* |
| Corn, grain | 1 bu. | − .92 | − .46 | ...... | ...... | − .16 | − .07 | ..... | − .20 | − .08 | ...... |
| stover | 65 lb.[b] | − .55 | − .28 | ...... | ...... | − .58 | − .26 | ..... | − .58 | − .23 | ...... |
| silage | 1 ton | − 8.00 | − 4.00 | ...... | ...... | −1.20 | − .54 | ..... | − 5.60 | −2.24 | ...... |
| Oats, grain | 1 bu. | − .61 | − .30 | ...... | ...... | − .11 | − .05 | ..... | − .15 | − .06 | ...... |
| straw | 35 lb.[b] | − .22 | − .11 | ...... | ...... | − .04 | − .02 | ..... | − .43 | − .17 | ...... |
| Wheat, grain | 1 bu. | − 1.20 | − .60 | ...... | ...... | − .23 | − .10 | ..... | − .27 | − .11 | ...... |
| straw | 100 lb.[b] | − .54 | − .27 | ...... | ...... | − .08 | − .04 | ..... | − .72 | − .29 | ...... |
| Soybeans, grain | 1 bu. | − 1.00 | + .90 | ...... | ...... | − .37 | − .17 | ..... | − .92 | − .37 | ...... |
| straw | 120 lb.[b] | − .50 | + .60 | ...... | + 1.20 | − .16 | − .07 | ..... | − .49 | − .24 | ...... |
| hay | 1 ton | −13.60 | +18.40 | ...... | + 36.80 | −5.40 | −2.43 | ..... | −21.20 | −8.48 | ...... |
| Alfalfa hay | 1 ton | − 3.70 | +26.00 | +39.00 | + 52.00 | −4.80 | −2.16 | −.96 | −27.00 | −10.80 | −2.70 |
| Red clover hay | 1 ton | − 2.20 | +20.40 | +30.60 | + 40.80 | −4.20 | −1.89 | −.84 | −29.40 | −11.76 | −2.94 |
| Lespedeza hay | 1 ton | −11.00 | +16.00 | +24.00 | + 32.00 | −5.20 | −2.34 | −1.04 | −16.00 | −6.40 | −1.60 |
| Sweet clover: | | | | | | | | | | | |
| Fall, first year | 1 ton[c] | ...... | ...... | ...... | +100.00 | ...... | ...... | ..... | ...... | ...... | ...... |
| Spring, second year | 1 ton[c] | ...... | ...... | ...... | +115.00[d] | ...... | ...... | ..... | ...... | ...... | ...... |
| Fall, second year | 1 ton[c] | ...... | ...... | +26.00 | + 35.00 | ...... | ...... | −.68 | ...... | ...... | −3.70 |
| Redtop hay | 1 ton | −22.50 | −11.25 | − 5.62 | ...... | −3.80 | −1.71 | −.72 | −31.20 | −12.48 | −3.12 |
| Timothy hay | 1 ton | −23.20 | −11.60 | − 5.80 | ...... | −3.40 | −1.53 | −.68 | −23.60 | −9.44 | −2.36 |

[a] Feed fed to livestock, with average methods of handling manure, results in a return to the soil of about 50 percent of the nitrogen, 55 percent of the phosphorus, and 60 percent of the potassium contained in the feed. Pasturing off a crop increases the percentages of plant food returned to the soil to about 75 percent for nitrogen, 80 percent for phosphorus, and 90 percent for potassium.

[b] Roughage production is for one bushel of grain on fertile soil.

[c] Use dry hay values. Average production per acre for a thick stand and heavy growth of sweet clover is: Fall first year, 1 ton if seeded with a nurse crop or 1½ tons if seeded alone; second year after July 1, 4½ tons.

[d] Nitrogen gains *per acre* are essentially the same whether the crop is plowed under in late fall of the first year or in the spring of the second year (top growth is less in spring).

### Gains in Nitrogen, Phosphorus, and Potassium From Purchased Feeds When Manure Is Returned to the Soil

| Kind of feed | Unit | Nitrogen (N) | Phosphorus (P) | Potassium (K) |
|---|---|---|---|---|
| | | *lb.* | *lb.* | *lb.* |
| Corn | 1 bu. | .46 | .09 | .12 |
| Oats, grain | 1 bu. | .30 | .06 | .09 |
| Wheat, grain | 1 bu. | .60 | .13 | .16 |
| Wheat bran | 100 lb. | 1.26 | .72 | .74 |
| Wheat middlings | 100 lb. | 1.36 | .40 | .53 |
| Soybean meal | 100 lb. | 3.54 | .33 | 1.32 |
| Linseed meal | 100 lb. | 3.08 | .40 | .66 |
| Cottonseed meal | 100 lb. | 3.45 | .61 | .81 |
| Tankage | 100 lb. | 4.90 | 1.88 | .33 |
| Timothy hay | 1 ton | 11.60 | 1.87 | 14.16 |
| Soybean hay | 1 ton | 25.20 | 2.97 | 12.72 |
| Alfalfa hay | 1 ton | 27.60 | 2.64 | 16.20 |
| Red clover hay | 1 ton | 21.50 | 2.31 | 17.64 |
| Lespedeza hay | 1 ton | 21.50 | 2.86 | 9.60 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United Stat
Department of Agriculture cooperating. H. P. Rusk, *Director*. Acts approved by Congress May 8 and June 30, 1914.

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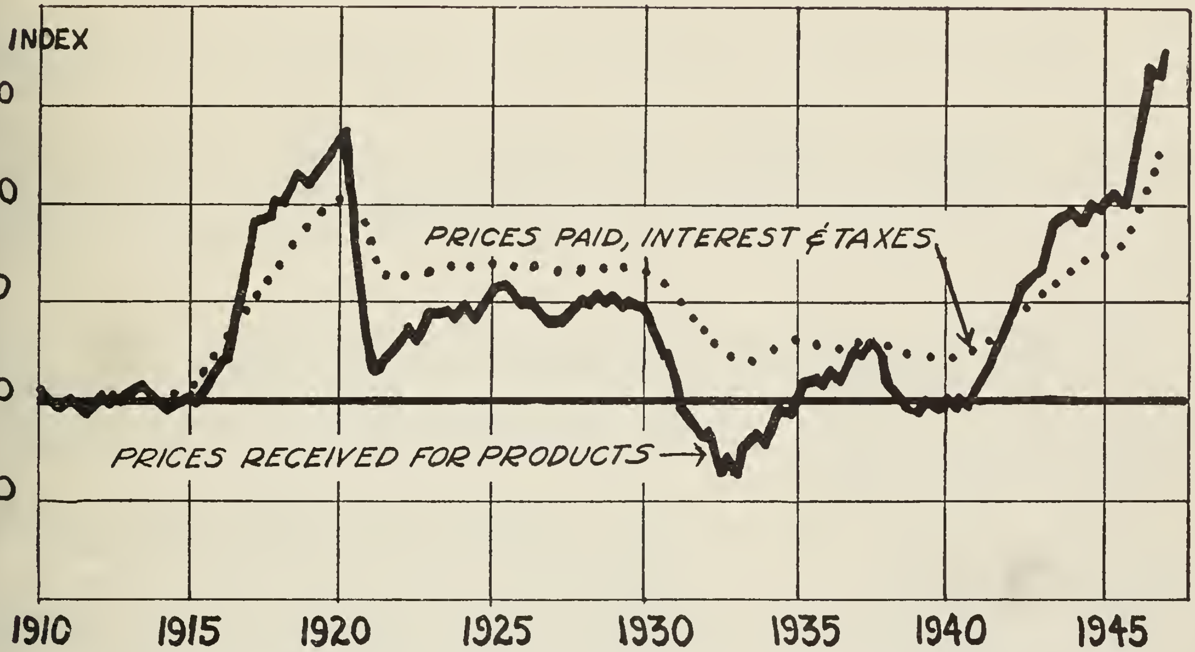
# YOUR FARM BUSINESS REPORT . . . . . . 1946



PRICES RECEIVED AND PAID BY FARMERS, INDEX NUMBERS, U.S., 1910-14 = 100

Prices received by farmers rose sharply in 1946. In October the index had risen to 273, the highest level on record. After a decline to 260 in January the index rose to another record of 280 on March 15, 1947. Although the index of prices paid also rose sharply in 1946, the ratio of prices received to prices paid reached a peak of 132 in October. Since October prices paid by farmers have risen more rapidly than prices received; on March 15, 1947, the ratio of prices received to prices paid was 122.

## FARMING-TYPE AREA FOUR

## East Central Cash Grain Area

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NAME________________________________________

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

AE-2450

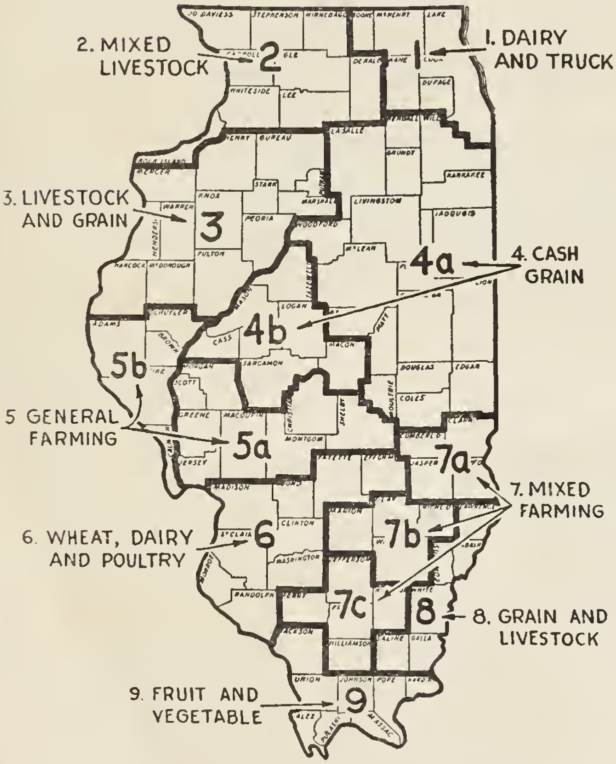
UNIVERSITY *of* ILLINOIS
COLLEGE *of* AGRICULTURE
AGRICULTURAL EXPERIMENT STATION
URBANA, ILLINOIS

DEPARTMENT *of*
AGRICULTURAL ECONOMICS

Dear Cooperator:

This is the thirty-first annual report of farm account records kept by Illinois farmers enrolled in the farm accounting extension project conducted by this department. The earnings on farms, both during World War I and World War II, show some interesting comparisons. The earnings in 1946 for Illinois as a whole were the highest of any year during the period. The advance in prices of farm products was so great when price restrictions were removed that differences in earnings between farms were due more to differences in prices received than to any other single factor. This is indicated in part by the chart on the front cover.

In spite of differences in earnings due to price changes, it should be emphasized that "Good Farming Paid." Profitable farming in Illinois will always depend upon the wise choice of crops to be grown, good yields, the production of livestock when well managed, and a careful control of expenses for labor, power, equipment, and other costs.



THE NINE MAJOR TYPE-OF-FARMING AREAS IN ILLINOIS

In addition to serving the purpose of studying your business and planning your farming operations for the future, farm records are a valuable guide for adjusting farm leases or father-son business agreements especially in periods of rapidly changing conditions.

The form for figuring the plant food balance for your farm and the directions for making the study on the last two pages of this report merit careful study. The heavy production of grain throughout the war years has been a severe drain on the fertility of Illinois farms. Future economical production requires replacing much of the plant food removed through heavy cropping if large yields are to be attained.

The map on this page will identify the area for which this report is prepared.

We trust that this report will prove valuable to you.

Very truly yours,

H. C. M. CASE
Head of Department

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Annual Farm Business Report

# ONE HUNDRED SEVENTEEN FARMS IN FARMING-TYPE AREA 4, 1946

J. B. Cunningham, A. T. Anderson, and A. G. Mueller[1]

Because of a favorable crop season and high prices (see front cover) net farm earnings on accounting farms in east-central Illinois in 1946 were the highest on record.

Corn acreage was much larger than in 1945, and the average yield of 65 bushels an acre was the best ever recorded for accounting farms in this area. The soybean acreage was also large and the yield averaged 24.9 bushels an acre as compared to 21.5 bushels an acre in 1945.

Cash receipts per farm averaged $16,424 (Table 2), $3,584 higher than in 1945. Crop sales accounted for $1,672 of this increase and livestock sales for $1,860. Cash expenses per farm averaged $8,317, an increase of $1,705 over the 1945 figure. The increase was partially for machinery, buildings, and land improvements, items that were hard to get during the war years.

The average cash balance was $8,107--$1,879 more than in 1945. In addition to a larger cash balance, there was an inventory increase of $1,884 in 1946.

Averages presented in this report provide good standards for measuring your efficiency. From Tables 1 through 5 you may determine where your returns were above or below the average of other farms in your area. Where efficiency factors are influenced by size of farm, value of land, or sources of income, the records have been sorted into groups and averages presented for each group.

The accounting farms in this report were larger than the average of all the farms in the area; the crop yields were above average; and the farm operators were more skillful than average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

---

[1] In cooperation with the following county farm advisers:

| | | | |
|---|---|---|---|
| Cass | G. H. Husted | McLean | O. L. Welsh |
| Champaign | J. E. Harris | Macon | J. R. Gilkey |
| Douglas | J. Q. Scott | Mason | R. V. Watson |
| Ford | A. B. Rowand | Menard | L. W. Chalcraft |
| Iroquois | K. R. Imig | Moultrie | P. M. Krows |
| Kankakee | L. D. Graham | Sangamon | Edwin Bay |
| Kendall | W. P. Miller | Vermilion | I. E. Parett |
| LaSalle | F. A. Painter | Will | G. W. Churchill |
| Logan | N. H. Anderson | Woodford | T. H. Brock |

TABLE 1.--FACTORS USED TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 4, 1946

| Item | Your farm | Standards for your farm | Average of 117 farms |
|---|---|---|---|
| (Those capitalized used in chart on opposite page) | | | |
| RATE EARNED ON INVESTMENT | ______% | 19.0 % | 19.0 % |
| Labor and management earnings | $______ | $______ c/ | $7754 |
| ACRES IN FARM | ______ | 242 | 242 |
| Acres in crops | ______ | 192 | 192 |
| GROSS EARNINGS PER ACRE | $______ | $______ a/ | $ 58.88 |
| GROSS EXPENSE PER ACRE | ______ | ______ | 23.60 |
| Net earnings per acre | $______ | $______ | $ 35.28 |
| Investments | | | |
| Value of improved land per acre | $______ | $______ a/ | $ 124 |
| Total investment per acre | ______ | ______ | 185 |
| Land use | | | |
| Percent of land area tillable | ______ | ______ a/ | 90.5 |
| Percent of tillable land in: | | | |
| Corn | ______ | ______ a/ | 40.8 |
| Oats | ______ | ______ | 18.7 |
| Wheat | ______ | ______ | 2.5 |
| Soybeans for grain | ______ | ______ | 17.3 |
| HAY AND PASTURE (incl. cl. & gr. seed crops) | ______ | ______ | 18.8 |
| Other crops (includes idle tillable land) | ______ | ______ | 1.9 |
| Crop yields | | | |
| CORN, BU | ______ | ______ a/ | 64.6 |
| OATS, BU | ______ | ______ | 43.0 |
| WHEAT, BU | ______ | ______ | 19.8 |
| SOYBEANS, BU | ______ | ______ | 24.9 |
| Livestock factors | | | |
| FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK | $______ | $______ b/ | $ 18.32 |
| RETURNS PER $100 FEED FED | $______ | $______ | $ 156 |
| Number of cows milked | ______ | ______ | 7.9 e/ |
| DAIRY RETURNS PER COW MILKED | $______ | $______ | $ 246 |
| Number of litters farrowed | ______ | ______ | 12.6 f/ |
| NUMBER OF PIGS WEANED PER LITTER | ______ | ______ | 6.6 |
| Returns per litter farrowed | $______ | $______ | $ 314 |
| Number of hens | ______ | ______ | 136 g/ |
| EGG RETURNS PER HEN | $______ | $______ | $ 4.18 |
| Expense factors | | | |
| Labor: COST PER CROP ACRE | $______ | $______ d/ | $ 13.29 |
| " Total months of labor | ______ | ______ c/ | 19.9 |
| POWER AND MACHINERY COST PER CROP ACRE | $______ | $______ d/ | $ 10.19 |
| Land improvement cost per acre | ______ | ______ a/ | 1.03 |
| BUILDINGS COST PER ACRE | ______ | ______ c/ | 1.28 |
| Land tax per acre | ______ | ______ | 1.40 |

a/ Table 4, value of improved land.
b/ Table 5, source of income.
c/ Table 3, size of farm.
d/ Table 6, size of farm and amount of feed fed per acre.
e/ Farms with over $299 dairy sales.
f/ Farms buying feeder pigs excluded.
g/ Farms with more than 49 hens.

## USE THIS CHART TO STUDY YOUR BUSINESS
Accounting Farms in Farming-Type Area 4, 1946

The double line across the middle of the page represents the average for farms which are similar to your farm for the indicated factor. By drawing a line across each column at the place where your farm stands in that factor, you can compare your efficiency with that of other similar accounting farms in your area.

| | | | | Factors that affect earnings | | | | | | | | | | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Crop yields | | | | Livestock | | | | | | | |
| Rate earned on investment, percent | Acres in farm | Gross earnings per acre | Gross expenses per acre | Percent of tillable land in hay and pasture | Corn, bu. | Oats, bu. | Wheat, bu. | Soybeans, bu. | Feed fed per acre to prod. livestock | Returns per $100 feed fed prod. l.s. | Dairy returns per cow milked | No. of pigs weaned per litter | Egg returns per hen | Labor cost per crop acre | Power and machinery cost per crop acre | Buildings cost per acre |
| | | | | | | | | | | | | | | | | |
| 35.0 | 362 | | | | | | | | | | | | | | | |
| 31.0 | 332 | | | | | | | | | | | | | | | |
| 27.0 | 302 | | | | | | | | | | | | | | | |
| 23.0 | 272 | | | | | | | | | | | | | | | |
| 19.0 | 242 | | | | | | | | | | | | | | | |
| 15.0 | 212 | | | | | | | | | | | | | | | |
| 11.0 | 182 | | | | | | | | | | | | | | | |
| 7.0 | 152 | | | | | | | | | | | | | | | |
| 3.0 | 122 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| *4% | 30 | $4 | $3 | 2% | 3 | 2 | 1 | 1 | $3 | $20 | $25 | .5 | $.40 | $1 | $1 | $.25 |

*Each space between lines represents the value indicated at bottom of each column.

(Higher values are recorded above the center of the page and lower values below, except for expenses, which are recorded in the opposite direction).

TABLE 2.--INVESTMENTS, INVENTORY CHANGES, CASH EXPENSES, CASH RECEIPTS, AND EARNINGS
Accounting Farms in Farming-Type Area 4, 1946

| Item | Capital investments | | Change in inventory | |
|---|---|---|---|---|
| | Your farm | Average of 117 farms | Your farm | Average of 117 farms |
| Land | $ | $ 29113 | $ -- | $ -- |
| Land improvements | | 925 | | 137 |
| Farm buildings | | 3556 | | 24 |
| Horses | | 116 | | -29 |
| Prod. l.s.: Cattle | | 2368 | | 508 |
| Hogs | | 917 | | 144 |
| Sheep | | 84 | | -41 |
| Poultry | | 152 | | - 4 |
| Total productive livestock | ( ) | ( 3521 ) | ( ) | ( 607 ) |
| Feed, grain, and seeds | | 4766 | | 889 |
| Machinery and equipment | | 2666 | | 248 |
| Automobile (farm share) | | 184 | | 8 |
| Totals | $ | $ 44847 | $ | $ 1884 |

| Item | Cash expenses | | Cash receipts | |
|---|---|---|---|---|
| | Your farm | Average of 117 farms | Your farm | Average of 117 farms |
| Land improvements | $ | $ 388 | $ | $ 1 |
| Farm buildings | | 350 | | 17 |
| Horses | | 17 | | 29 |
| Prod. l.s.: Cattle | | 2126 | | 3378 |
| Dairy sales | -- | -- | | 1243 |
| Hogs | | 158 | | 2912 |
| Sheep | | 5 | | 121 |
| Poultry | | 54 | | 237 |
| Egg sales | -- | -- | | 447 |
| Total productive livestock | ( ) | ( 2343 ) | ( ) | ( 8338 ) |
| Feed, grain, and seeds | | 1474 | | 7562 |
| Machinery and equipment | | 2193 | | 330 |
| Automobile (farm share) | | 268 | | 25 |
| Livestock expense | | 96 | -- | -- |
| A.A.A. receipts | -- | -- | | 78 |
| Labor | | 730 | | 39 |
| Taxes | | 405 | -- | -- |
| Miscellaneous | | 53 | | 5 |
| Totals | $ | $ 8317 | $ | $ 16424 |

| Item | Earnings | | | | | |
|---|---|---|---|---|---|---|
| | Your farm | Annual averages | | | | |
| | | 1946 | 1945 | 1944 | 1943 | 1942 |
| Cash balance | $ | $ 8107 | $ 6228 | $ 7100 | $ 7205 | $ 6200 |
| Inventory change | | 1884 | 521 | -574 | 688 | 1705 |
| Farm products used in household | | 396 | 366 | 389 | 371 | 344 |
| RECEIPTS LESS EXPENSES | $ | $10387 | $ 7115 | $ 6915 | $ 8264 | $ 8249 |
| Family labor | | 391 | 410 | 383 | 344 | 242 |
| RETURN FOR CAPITAL, LABOR & MGT | $ | $ 9996 | $ 6705 | $ 6532 | $ 7920 | $ 8007 |
| Operator's labor | | 1459 | 1354 | 1242 | 1015 | 763 |
| NET EARNINGS (Return for cap.& mgt.) | $ | $ 8537 | $ 5351 | $ 5290 | $ 6905 | $ 7244 |
| RATE EARNED ON INVESTMENT | % | 19.0% | 12.1% | 10.9% | 15.2% | 15.5% |
| Interest on investment at 5 percent | $ | $ 2242 | $ 2205 | $ 2421 | $ 2274 | $ 2335 |
| LABOR AND MANAGEMENT EARNINGS | | 7754 | 4500 | 4111 | 5646 | 5672 |

Change in grain inventories. The inventory increase of $1,884 in 1946 (Table 2) was due, in part, to an end of the year increase of 726 bushels of corn. This increase as well as other changes in grain supplies are shown in the following table:

| | January 1, 1946<br>Bushels | December 31, 1946<br>Bushels | Change<br>Bushels |
|---|---|---|---|
| Corn | 3,300 | 4,026 | + 726 |
| Oats | 953 | 912 | - 41 |
| Wheat | 17 | 8 | - 9 |
| Soybeans | 138 | 98 | - 40 |

Size of farm. Table 3 shows averages for farms of about the same size as your farm. Thus, you may find out whether your farm was high or low in 1946 in such factors as labor and management earnings, building cost per acre, and feed fed per acre.

In comparing labor and management earnings for the various size groups, you should consider that, in general, such earnings increase as the size of farms increase when average earnings are high as in 1946, but that this earning situation is reversed when average earnings are extremely low as in 1932 and 1933.

TABLE 3.--FARM EARNINGS AND OTHER FACTORS RELATED TO SIZE OF FARM
Accounting Farms in Farming-Type Area 4, 1946

| Item | Total acres in farm | | | | |
|---|---|---|---|---|---|
| | 77 to 140 | 141 to 220 | 221 to 300 | 301 to 380 | 381 to 610 |
| Number of farms.......... | 16 | 52 | 19 | 14 | 16 |
| Acres in farm............ | 115 | 178 | 257 | 338 | 474 |
| Acres in crops........... | 89 | 142 | 206 | 282 | 361 |
| Rate earned on investment | 15.3% | 18.6% | 17.3% | 21.6% | 20.1% |
| Labor and mgt. earnings.. | $3589 | $6291 | $7245 | $11136 | $14321 |
| Net earnings per acre.... | 26.83 | 37.17 | 31.72 | 37.44 | 35.99 |
| Labor cost per crop acre. | $ 22.88 | $ 15.56 | $ 14.40 | $ 10.18 | $ 9.67 |
| Total months of labor.... | 16.3 | 17.5 | 21.3 | 23.6 | 26.5 |
| Power & machinery cost per crop acre.......... | $ 13.90 | $ 11.68 | $ 10.90 | $ 8.30 | $ 8.18 |
| Buildings cost per acre.. | 1.96 | 1.60 | 1.19 | 1.00 | .95 |
| Feed fed per acre........ | 32.99 | 21.00 | 20.85 | 8.09 | 16.25 |

Land use and crop yields. As the average per-acre value of improved land increased from $54 to $188, the tillable land increased from 79 percent to 91 percent; the tillable land in grain crops increased from 68.4 percent to 81.6 percent, and the net earnings per acre increased from $15.74 to $38.35. Farms with low-valued land ($54 an acre) had the largest percentage of land in other crops including idle land. The farms with improved land averaging $145 an acre had the highest net earnings per acre.

In general, the highest crop yields were recorded on the high-valued land. The differences in average per-acre yields between farms averaging $54 an acre for improved land and those averaging $145 an acre were: corn, 24.5 bushels; oats, 10.2 bushels; wheat, 8.9 bushels; and soybeans, 5.3 bushels.

TABLE 4.--USE OF TILLABLE LAND AND OTHER FACTORS RELATED TO VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 4, 1946

| Item | Value of improved land | | | | | |
|---|---|---|---|---|---|---|
| | $25 to $72 | $73 to $92 | $93 to $112 | $113 to $132 | $133 to $152 | $153 to $250 |
| Number of farms.............. | 8 | 13 | 23 | 31 | 29 | 13 |
| Value of improved land........ | $ 54 | $ 82 | $102 | $124 | $145 | $188 |
| Total investment per acre..... | 84 | 132 | 163 | 199 | 212 | 242 |
| Acres in farm................. | 277 | 230 | 223 | 217 | 267 | 270 |
| Rate earned on investment..... | 18.7 | 21.7 | 17.7 | 20.2 | 19.8 | 15.8 |
| Percent of land area tillable. | 79.0 | 90.0 | 91.9 | 92.3 | 91.1 | 91.0 |
| Percent of tillable land in: | | | | | | |
| Corn........................ | 32.7 | 39.7 | 40.5 | 45.6 | 39.9 | 39.6 |
| Oats........................ | 13.9 | 16.5 | 20.7 | 20.8 | 18.2 | 17.0 |
| Wheat....................... | 9.2 | 6.1 | 1.2 | -- | 1.7 | 3.9 |
| Soybeans for grain.......... | 12.6 | 18.7 | 17.7 | 12.9 | 19.8 | 21.1 |
| Hay & Pas.(incl. cl. & gr. seed)...................... | 17.2 | 17.3 | 19.0 | 20.1 | 19.1 | 17.3 |
| Other crops(incl. idle till. land).................... | 14.4 | 1.7 | .9 | .6 | 1.3 | 1.1 |
| Crop yields: | | | | | | |
| Corn, bu.................... | 49.5 | 56.8 | 59.5 | 63.3 | 74.0 | 67.1 |
| Oats, bu.................... | 36.4 | 34.2 | 38.6 | 46.1 | 46.6 | 44.9 |
| Wheat, bu................... | 17.4 | 14.7 | 28.8 | -- | 26.3 | 19.5 |
| Soybeans, bu................ | 22.3 | 22.0 | 21.4 | 24.9 | 27.6 | 26.9 |
| Gross earnings per acre....... | $ 31.87 | $ 51.39 | $ 55.95 | $ 65.25 | $ 65.39 | $ 60.17 |
| Gross expense per acre........ | 16.13 | 22.64 | 27.07 | 25.15 | 23.31 | 21.82 |
| Net earnings per acre......... | $ 15.74 | $ 28.75 | $ 28.88 | $ 40.10 | $ 42.08 | $ 38.35 |
| Land improvement cost per acre | 1.00 | 1.17 | 1.33 | 1.07 | .89 | .75 |
| Land tax per acre............. | .92 | 1.31 | 1.41 | 1.40 | 1.54 | 1.45 |

Source of income. Relative profits from various types of farming change from year to year, depending on conditions affecting production and prices. Therefore, averages for one year should not be used as the basis for reorganizing the farm business. In 1946 conditions were favorable for grain farms (Table 5).

TABLE 5.--FARM EARNINGS AND OTHER FACTORS RELATED TO SOURCE OF INCOME
Accounting Farms in Farming-Type Area 4, 1946

| Item | Source of income | | |
|---|---|---|---|
| | Grain over 40% | Hogs over 40% | General farms |
| Number of farms | 70 | 18 | 29 |
| Acres in farm | 276 | 208 | 182 |
| Rate earned on investment | 19.8 | 16.8 | 18.2 |
| Net earnings per acre | $ 34.76 | $ 34.91 | $ 37.48 |
| Fed fed per acre to prod. l.s | $ 10.55 | $ 40.96 | $ 30.70 |
| Returns per $100 feed fed | 158 | 146 | 164 |
| Number of cows milked | 6.6 | 7.4 | 10.6 |
| Dairy returns per cow milked | $218 | $212 | $291 |
| Number of litters farrowed | 7.7 | 27.9 | 11.5 |
| Number of pigs weaned per litter | 6.7 | 6.6 | 6.5 |
| Returns per litter farrowed | $326 | $308 | $304 |
| Number of hens | 129 | 128 | 203 |
| Egg returns per hen | $ 3.93 | $ 3.62 | $ 4.90 |

Labor, power and machinery costs. Table 6 provides standards for comparing costs on your farm with farms similar in size and in amounts of feed fed per acre. The lowest costs were for large farms with the least livestock, and the highest costs were for small farms with the most livestock. Labor costs were much higher than power and machinery costs.

TABLE 6.--LABOR COST AND POWER AND MACHINERY COST PER CROP ACRE FOR DIFFERENT SIZE FARMS AND DIFFERENT AMOUNTS OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 4, 1946

| Acres per farm | Feed fed per acre | | | | | |
|---|---|---|---|---|---|---|
| | Less than $16.00 | $16.00 to $23.99 | $24.00 and over | Less than $16.00 | $16.00 to $23.99 | $24.00 and over |
| | (Labor cost per crop acre) | | | (Power and machinery cost per crop acre) | | |
| 77 to 140 | $16.60 | $17.50 | $26.00 | $11.00 | $12.50 | $16.00 |
| 141 to 220 | 13.00 | 16.30 | 19.00 | 9.00 | 11.00 | 13.50 |
| 221 to 300 | 12.50 | 14.00 | 15.60 | 8.50 | 10.00 | 12.00 |
| 301 to 380 | 10.20 | 12.00 | 14.00 | 8.00 | 9.00 | 11.00 |
| 381 to 610 | 9.00 | 10.00 | 12.50 | 7.20 | 8.50 | 9.80 |

## FIGURING PLANT FOOD LOSSES AND GAINS ON YOUR FARM FOR 1946

Follow the instructions and tables on opposite page for making calculations. Use your 1946 farm account book to get amount of:

| | | |
|---|---|---|
| Home-grown crops | sold | Page 29, lines 5 and 14 |
| | fed | Page 29, line 19 |
| | pastured | Page 21 |
| | plowed under | Pages 20 and 21 |
| Feeds bought | | Pages 24 and 25 |
| Fertilizers bought | | Pages 2 and 3 |

| Item | Use | Amount | Nitrogen | | Phosphorus | | Potassium | |
|---|---|---|---|---|---|---|---|---|
| | Sold, fed, pastured, plowed | Bushels or Tons | Gain | Loss | Gain | Loss | Gain | Loss |
| Home-grown crop: | | | lb. | lb. | lb. | lb. | lb. | lb. |
| | | | | | | | | |
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| | | | | | | | | |
| Feeds bought: | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Fertilizers bought: | XX | | | | | | | |
| | XX | | | | | | | |
| | XX | | | | | | | |
| Total | | | | | | | | |
| Place smaller under larger | | | | | | | | |
| Net gain (+) or loss (-) | | | | | | | | |

# GAINS AND LOSSES OF PLANT FOOD

From the following tables you can calculate how much nitrogen, phosphorus, and potassium different crops take from the soil and how much is returned by plowing under legumes and by feeding home-grown crops and purchased feeds. No allowance has been made for plant-food losses from erosion or leaching or for losses of organic matter.

To find the gain or loss multiply the number of units by the pounds of nitrogen, phosphorus, and potassium in one unit. For example, a thousand bushels of corn harvested and sold takes 920 pounds of nitrogen (1,000 × .92), 160 pounds of phosphorus (1,000 × .16), and 200 pounds of potassium (1,000 × .20) from the soil. Ten tons of red clover plowed under, on the other hand, adds 408 pounds of nitrogen without changing the amount of phosphorus or potassium in the soil.

To calculate the pounds of plant-food elements added by using commercial fertilizers, you need to know how much fertilizer is added and its chemical analysis. Five thousand pounds of 3-12-12 fertilizer, for example, will add 150 pounds of nitrogen, 600 pounds of phosphoric acid (262 pounds of phosphorus), and 600 pounds of potash (498 pounds of potassium). Phosphoric acid, $P_2O_5$, contains only 43.6 percent phosphorus, P; and potash, $K_2O$, contains only 83 percent potassium, K.

In figuring the amount of rock phosphate used, take 10 percent of the total amount applied during the past ten years because rock phosphate is a long-time fertilizer.

**Gains or Losses of Nitrogen, Phosphorus, and Potassium When Home-Grown Crops Are Sold, Plowed Under, Fed, or Pastured[a]**

(+ = gains; − = losses)

| Kind of crop | Crop unit | Nitrogen (N) | | | | Phosphorus (P) | | | Potassium (K) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sold | Fed | Pastured | Plowed under | Sold | Fed | Pastured | Sold | Fed | Pastured |
| | | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* | *lb.* |
| Corn, grain | 1 bu. | − .92 | − .46 | ...... | ...... | − .16 | − .07 | ...... | − .20 | − .08 | ...... |
| stover | 65 lb.[b] | − .55 | − .28 | ...... | ...... | − .58 | − .26 | ...... | − .58 | − .23 | ...... |
| silage | 1 ton | − 8.00 | − 4.00 | ...... | ...... | −1.20 | − .54 | ...... | − 5.60 | −2.24 | ...... |
| Oats, grain | 1 bu. | − .61 | − .30 | ...... | ...... | − .11 | − .05 | ...... | − .15 | − .06 | ...... |
| straw | 35 lb.[b] | − .22 | − .11 | ...... | ...... | − .04 | − .02 | ...... | − .43 | − .17 | ...... |
| Wheat, grain | 1 bu. | − 1.20 | − .60 | ...... | ...... | − .23 | − .10 | ...... | − .27 | − .11 | ...... |
| straw | 100 lb.[b] | − .54 | − .27 | ...... | ...... | − .08 | − .04 | ...... | − .72 | − .29 | ...... |
| Soybeans, grain | 1 bu. | − 1.00 | + .90 | ...... | ...... | − .37 | − .17 | ...... | − .92 | − .37 | ...... |
| straw | 120 lb.[b] | − .50 | + .60 | ...... | + 1.20 | − .16 | − .07 | ...... | − .49 | − .24 | ...... |
| hay | 1 ton | −13.60 | +18.40 | ...... | + 36.80 | −5.40 | −2.43 | ...... | −21.20 | −8.48 | ...... |
| Alfalfa hay | 1 ton | − 3.70 | +26.00 | +39.00 | + 52.00 | −4.80 | −2.16 | −.96 | −27.00 | −10.80 | −2.70 |
| Red clover hay | 1 ton | − 2.20 | +20.40 | +30.60 | + 40.80 | −4.20 | −1.89 | −.84 | −29.40 | −11.76 | −2.94 |
| Lespedeza hay | 1 ton | −11.00 | +16.00 | +24.00 | + 32.00 | −5.20 | −2.34 | −1.04 | −16.00 | −6.40 | −1.60 |
| Sweet clover: | | | | | | | | | | | |
| Fall, first year | 1 ton[c] | ...... | ...... | ...... | +100.00 | ...... | ...... | ...... | ...... | ...... | ...... |
| Spring, second year | 1 ton[c] | ...... | ...... | ...... | +115.00[d] | ...... | ...... | ...... | ...... | ...... | ...... |
| Fall, second year | 1 ton[c] | ...... | ...... | +26.00 | + 35.00 | ...... | ...... | −.68 | ...... | ...... | −3.70 |
| Redtop hay | 1 ton | −22.50 | −11.25 | − 5.62 | ...... | −3.80 | −1.71 | −.72 | −31.20 | −12.48 | −3.12 |
| Timothy hay | 1 ton | −23.20 | −11.60 | − 5.80 | ...... | −3.40 | −1.53 | −.68 | −23.60 | −9.44 | −2.36 |

[a] Feed fed to livestock, with average methods of handling manure, results in a return to the soil of about 50 percent of the nitrogen, 55 percent of the phosphorus, and 60 percent of the potassium contained in the feed. Pasturing off a crop increases the percentages of plant food returned to the soil to about 75 percent for nitrogen, 80 percent for phosphorus, and 90 percent for potassium.

[b] Roughage production is for one bushel of grain on fertile soil.

[c] Use dry hay values. Average production per acre for a thick stand and heavy growth of sweet clover is: Fall first year, 1 ton if seeded with a nurse crop or 1½ tons if seeded alone; second year after July 1, 4½ tons.

[d] Nitrogen gains *per acre* are essentially the same whether the crop is plowed under in late fall of the first year or in the spring of the second year (top growth is less in spring).

**Gains in Nitrogen, Phosphorus, and Potassium From Purchased Feeds When Manure Is Returned to the Soil**

| Kind of feed | Unit | Nitrogen (N) | Phosphorus (P) | Potassium (K) |
|---|---|---|---|---|
| | | *lb.* | *lb.* | *lb.* |
| Corn | 1 bu. | .46 | .09 | .12 |
| Oats, grain | 1 bu. | .30 | .06 | .09 |
| Wheat, grain | 1 bu. | .60 | .13 | .16 |
| Wheat bran | 100 lb. | 1.26 | .72 | .74 |
| Wheat middlings | 100 lb. | 1.36 | .40 | .53 |
| Soybean meal | 100 lb. | 3.54 | .33 | 1.32 |
| Linseed meal | 100 lb. | 3.08 | .40 | .66 |
| Cottonseed meal | 100 lb. | 3.45 | .61 | .81 |
| Tankage | 100 lb. | 4.90 | 1.88 | .33 |
| Timothy hay | 1 ton | 11.60 | 1.87 | 14.16 |
| Soybean hay | 1 ton | 25.20 | 2.97 | 12.72 |
| Alfalfa hay | 1 ton | 27.60 | 2.64 | 16.20 |
| Red clover hay | 1 ton | 21.50 | 2.31 | 17.64 |
| Lespedeza hay | 1 ton | 21.50 | 2.86 | 9.60 |

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United States Department of Agriculture cooperating. H. P. Rusk, *Director*. Acts approved by Congress May 8 and June 30, 1914.

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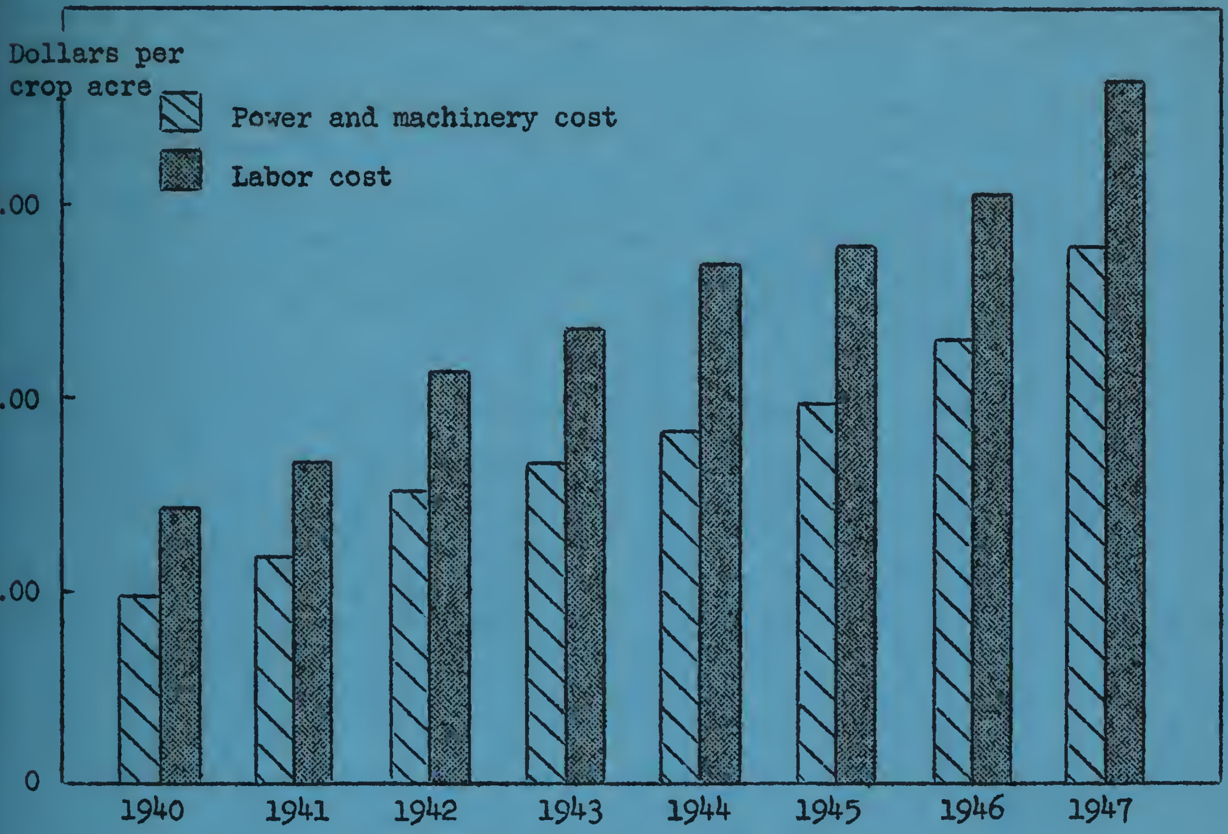
# YOUR FARM BUSINESS REPORT . . . . 1947



Power and Machinery and Labor Cost
per Crop Acre, Farming-Type Area 5, 1940-47

FARMING-TYPE AREA FIVE
West Central General Farming Area

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Name________________________________________

Department of Agricultural Economics, University of Illinois
College of Agriculture, Extension Service in Agriculture and Home Economics
Urbana, Illinois

UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE
AGRICULTURAL EXPERIMENT STATION
URBANA, ILLINOIS

Department of
Agricultural Economics

Dear Cooperator:

We are returning to you the summary of the farm account you have kept i cooperation with this department. For 32 years Illinois farmers have been workin with us on this project. The results are measured in terms of superior managemen higher earnings, and a better living on thousands of Illinois farms. Although we lieve that cooperators receive the major benefits, others also profit from the results which your cooperation makes possible. We sincerely hope that you as well your neighbors will continue to benefit from this project for many years to come.

Farm earnings have recently been high, partly because of higher price le els resulting from the recent war. During periods of rising prices, costs tend to lag behind prices of farm products. As high prices continue, costs tend to catch In the year ahead, it will be important to pay close attention to costs. This report gives special attention to farming costs.

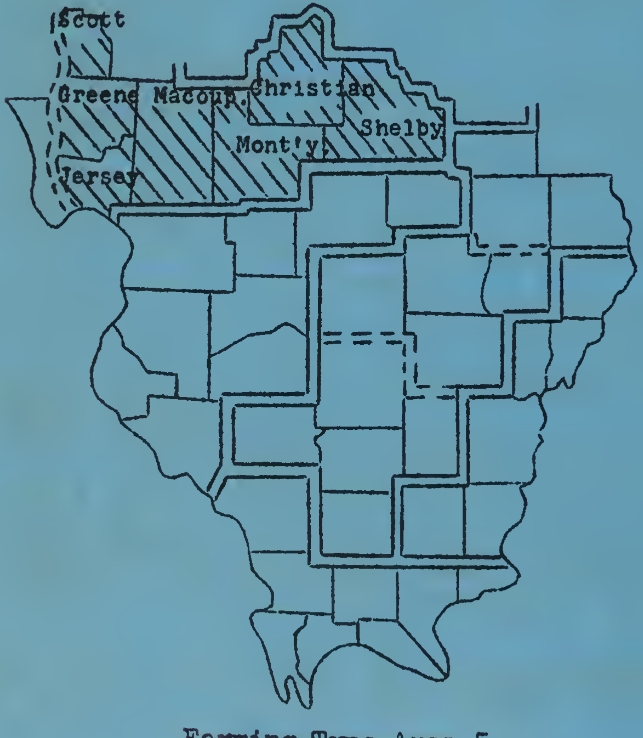
The map below shows the area to which averages in this report refer.

Very truly yours,

H. C. M. Case

H. C. M. Case
Head of Department

HCMC:pm



Farming-Type Area 5
West Central General Farming Area

Counties and Farm Advisers
Cooperating in This Report

| | |
|---|---|
| Christian | C. S. Love |
| Greene | R. H. Roll |
| Jersey | C. T. Kibler |
| Macoupin | O. O. Mowery |
| Montgomery | E. D. Peterson |
| Scott | G. E. Lampe |
| Shelby | G. F. Sons |

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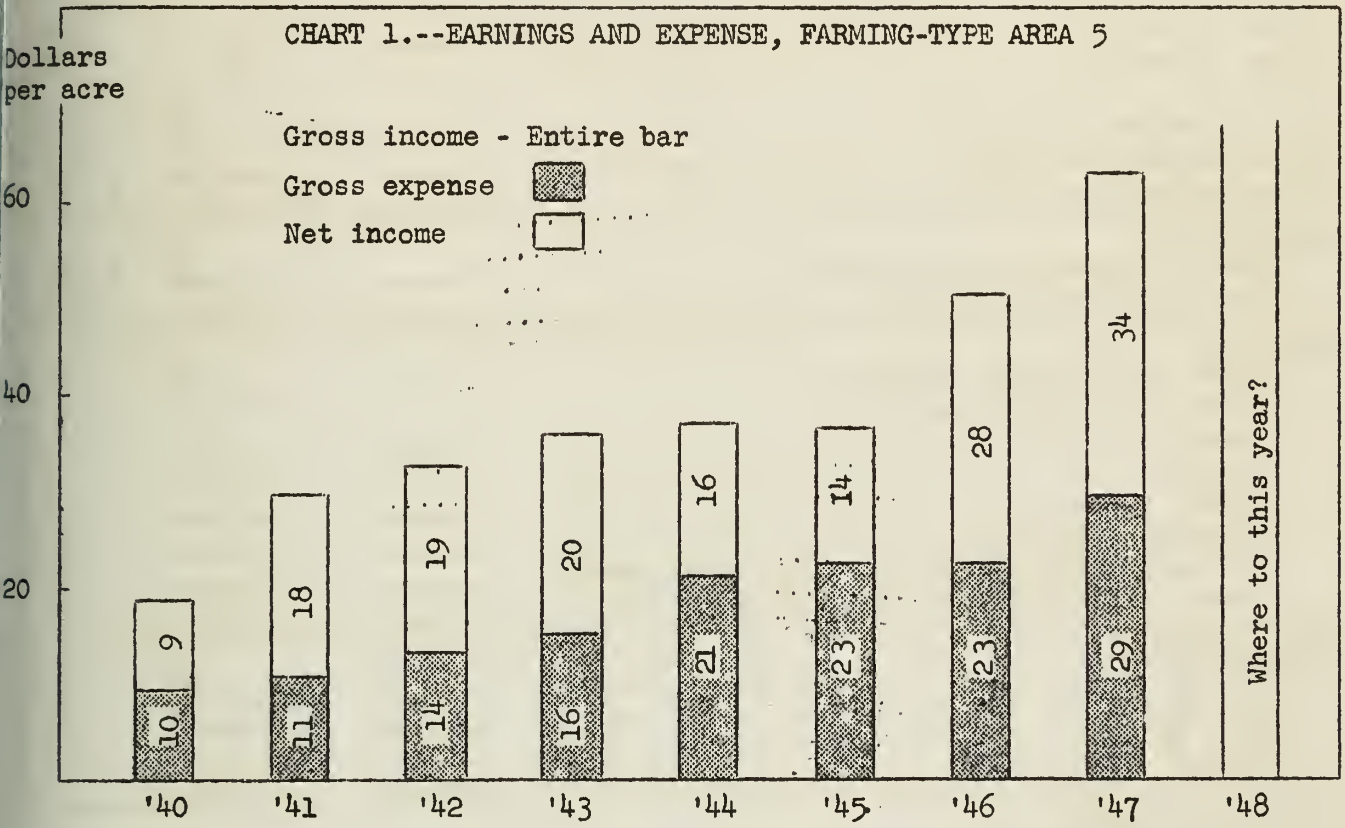
Annual Farm Business Report

# ONE HUNDRED SEVENTEEN FARMS IN FARMING-TYPE AREA 5, 1947[a]

J. B. Cunningham, and A. G. Mueller

In 1947 net farm earnings in the west-central general farming area reached an all-time high (Chart 1). Earnings averaged $34.09 in 1947, $27.89 in 1946, $13.80 in 1945, and $9.04 in 1940. The 1947 increase over 1946 was due principally to higher prices for farm products.

CHART 1.--EARNINGS AND EXPENSE, FARMING-TYPE AREA 5



The chart above shows upward trends in per acre gross earnings, gross expenses, and net earnings since 1940. In recent years gross earnings have gone up faster than gross expenses, leaving a much wider margin of profit in 1946 and 1947 than in 1940 and 1941. We may expect a decrease in gross earnings in 1948 and another lag in expenses that will result in lower net earnings than in 1947.

Farm expenses in 1948 will probably be as high as they were in 1947. There is little chance for lower labor cost (mostly family labor) or for lower power and machinery cost, but farmers may have opportunities to lower these costs on their individual farms. Average gross income may be lower than in 1947. Therefore, watch your expenses. Money spent in 1948 for land improvements and for necessary repairs will probably give better returns than new investments in farm real estate, new buildings, machinery, and purebred livestock, or other items for which you may have to pay highly inflated prices. Such items may have to be depreciated during periods of lower prices. IN 1948 BUY ONLY NEEDED CAPITAL ITEMS, AND REDUCE INEFFICIENCIES IN FARM OPERATIONS.

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[a] This report includes records only from those counties in Farming-Type Area 5 not in an organized Farm Bureau Farm Management Service area.

## TABLE 1.--FACTORS USED TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 5, 1947

| Item | Your farm | Standards for your farm | Avera of 11 farms |
|---|---|---|---|
| (Those capitalized used in chart on opposite page) | | | |
| RATE EARNED ON INVESTMENT | ______% | 23.8 % | 23.8 |
| Labor and management earnings | $______ | $______ | $7791 |
| Acres in farm | ______ | 234 | 234 |
| Acres in crops | ______ | 158 | 158 |
| GROSS EARNINGS PER ACRE | $______ | $______ a/ | $ 63.4 |
| GROSS EXPENSE PER ACRE | ______ | ______ | 29.4 |
| Net earnings per acre | $______ | $______ | $ 34.0 |
| Investments | | | |
| Value of improved land per acre | $______ | $______ a/ | $ 84 |
| Total investment per acre | ______ | ______ | 143 |
| Land use | | | |
| Percent of land area tillable | ______ | ______ a/ | 81.4 |
| Percent of tillable land in: | | | |
| Corn | ______ | ______ | 29.8 |
| Oats | ______ | ______ | 7.7 |
| Wheat | ______ | ______ | 8.2 |
| Soybeans for grain | ______ | ______ | 27.0 |
| HAY AND PASTURE (incl. cl. & gr. seed crops) | ______ | ______ | 23.6 |
| Other crops (includes idle tillable land) | ______ | ______ | 3.7 |
| Crop yields | | | |
| CORN, BU. | ______ | ______ a/ | 35.8 |
| OATS, BU. | ______ | ______ | 30.1 |
| WHEAT, BU. | ______ | ______ | 25.3 |
| SOYBEANS, BU. | ______ | ______ | 18.6 |
| Livestock factors | | | |
| FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK | $______ | $______ b/ | $ 29 |
| RETURNS PER $100 FEED FED (pasture not included) | $______ | $______ | $ 150 |
| Number of cows milked | ______ | ______ | 10.9[d] |
| DAIRY RETURNS PER COW MILKED | $______ | $______ | $ 260 |
| Number of litters farrowed | ______ | ______ | 18.8[e] |
| NUMBER OF PIGS WEANED PER LITTER | ______ | ______ | 6.1 |
| Returns per litter farrowed | $______ | $______ | $ 381 |
| Number of hens | ______ | 140 | 140 [f] |
| EGG RETURNS PER HEN | $______ | $ 4.15 | $ 4.15 |
| Expense factors | | | |
| LABOR: COST PER CROP ACRE | $______ | $______ c/ | $ 18.01 |
| " Total months of labor | ______ | ______ a/ | 21.9 |
| POWER AND MACHINERY COST PER CROP ACRE | $______ | $______ c/ | $ 13.73 |
| Land improvement cost per acre | ______ | ______ a/ | 2.07 |
| BUILDINGS COST PER ACRE | ______ | ______ a/ | 1.61 |

a/ Table 3. Size of farm and value of improved land.
b/ Table 4. Source of income.
c/ Table 5. Crop acres and amount of feed fed per acre.
d/ Farms with over $300 dairy sales.
e/ Farms buying feeder pigs excluded.
f/ Farms with more than 50 hens.

# CHART 2.--USE THIS CHART TO STUDY YOUR BUSINESS
Accounting Farms in Farming-Type Area 5, 1947

The double line across the middle of the page represents the average for farms which are similar to your farm for the indicated factor. By drawing a line across each column at the place where your farm stands in that factor, you can compare your efficiency with that of other similar accounting farms in your area.

| | | | | Factors that affect earnings | | | | | | | | | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Crop yields | | | | Livestock | | | | | | | |
| Rate earned on investment, percent | Gross earnings per acre | Gross expenses per acre | Percent of tillable land in hay and pasture | Corn, bu. | Oats, bu. | Wheat, bu. | Soybeans, bu. | Feed fed per acre to prod. livestock | Returns per $100 feed fed prod. l.s. | Dairy returns per cow milked | No. of pigs weaned per litter | Egg returns per hen | Labor cost per crop acre | Power and machinery cost per crop acre | Buildings cost per acre |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 38.8 | | | | | | | | | | | | | | | |
| 33.8 | | | | | | | | | | | | | | | |
| 28.8 | | | | | | | | | | | | | | | |
| 23.8 | | | | | | | | | | | | | | | |
| 18.8 | | | | | | | | | | | | | | | |
| 13.8 | | | | | | | | | | | | | | | |
| 8.8 | | | | | | | | | | | | | | | |
| 3.8 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 5% | $5 | $4 | 5% | 4 | 4 | 2 | 2 | $5 | $20 | $10 | .5 | $.50 | $1 | $1 | $.30 |

*Each space between lines represents the value indicated at bottom of each column.

(Higher values are recorded above the center of the page and lower values below, except for expenses, which are recorded in the opposite direction.)

TABLE 2.--INVESTMENTS, INVENTORY CHANGES, CASH EXPENSES, CASH RECEIPTS, AND EARNI
Accounting Farms in Farming-Type Area 5, 1947

| Item | Capital investments |  | Change in inventory |  |
|---|---|---|---|---|
|  | Your farm | Average of 117 farms | Your farm | Average o 117 farms |
| Land | $____ | $ 17914 | $ -- | $ -- |
| Land improvements | ____ | 1024 | ____ | 307 |
| Farm buildings | ____ | 3383 | ____ | 77 |
| Horses | ____ | 117 | ____ | -26 |
| Prod. l.s.: Cattle | ____ | 2159 | ____ | 302 |
| Hogs | ____ | 1569 | ____ | 149 |
| Sheep | ____ | 49 | ____ | 77 |
| Poultry | ____ | 149 | ____ | -5 |
| Total productive livestock | (____) | ( 3926 ) | (____) | ( 523 |
| Feed, grain, and seeds | ____ | 4391 | ____ | 420 |
| Machinery and equipment | ____ | 2709 | ____ | 614 |
| Automobile (farm share) | ____ | 157 | ____ | 169 |
| Totals | $____ | $ 33621 | $____ | $ 2084 |

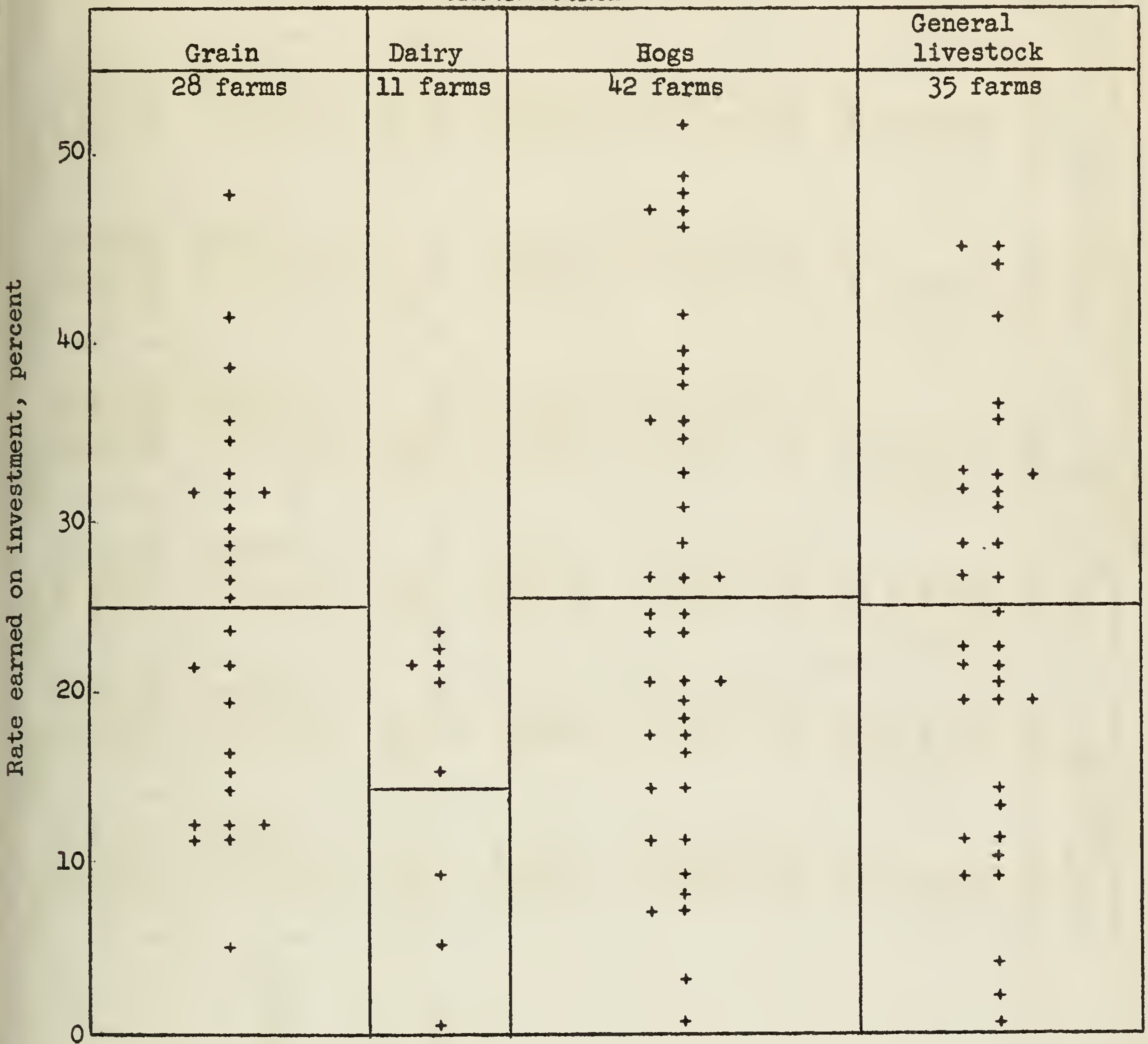
| Item | Cash expenses |  | Cash receipts |  |
|---|---|---|---|---|
|  | Your farm | Average of 117 farms | Your farm | Average o 117 farms |
| Land improvements | $____ | $ 802 | $____ | $ 9 |
| Farm buildings | ____ | 460 | ____ | 6 |
| Horses | ____ | 10 | ____ | 15 |
| Prod. l.s.: Cattle | ____ | 1192 | ____ | 2698 |
| Dairy sales | -- | -- | ____ | 1671 |
| Hogs | ____ | 306 | ____ | 5830 |
| Sheep | ____ | 123 | ____ | 141 |
| Poultry | ____ | 47 | ____ | 147 |
| Egg sales | -- | -- | ____ | 427 |
| Total productive livestock | (____) | ( 1668 ) | (____) | ( 10914 |
| Feed, grain, and seeds | ____ | 2472 | ____ | 6045 |
| Machinery and equipment | ____ | 2841 | ____ | 401 |
| Automobile (farm share) | ____ | 433 | ____ | 62 |
| Livestock expense | ____ | 128 | -- | -- |
| A.A.A. receipts | -- | -- | ____ | 92 |
| Labor | ____ | 880 | ____ | 27 |
| Taxes | ____ | 412 | -- | -- |
| Miscellaneous | ____ | 50 | ____ | 4 |
| Totals | $____ | $ 10156 | $____ | $ 17575 |

| Item | Earnings |  |  |  |  |  |
|---|---|---|---|---|---|---|
|  | Your farm | Annual averages |  |  |  |  |
|  |  | 1947 | 1946 | 1945 | 1944 | 1943 |
| Cash balance | $____ | $ 7419 | $ 5797 | $ 5159 | $ 5707 | $ 5477 |
| Inventory change | ____ | 2084 | 2437 | -152 | -273 | 730 |
| Farm products used in household | ____ | 466 | 419 | 384 | 391 | 373 |
| RECEIPTS LESS EXPENSE | $____ | $ 9969 | $ 8653 | $ 5391 | $ 5825 | $ 6580 |
| Family labor | ____ | 497 | 450 | 486 | 478 | 380 |
| RETURN FOR CAPITAL, LABOR & MGT. | $____ | $ 9472 | $ 8203 | $ 4905 | $ 5347 | $ 6200 |
| Operator's labor | ____ | 1478 | 1283 | 1238 | 1130 | 905 |
| NET EARNINGS (Return for cap.&mgt.) | $____ | $ 7994 | $ 6920 | $ 3667 | $ 4217 | $ 5295 |
| RATE EARNED ON INVESTMENT | ____% | 23.8% | 22.5% | 11.3% | 12.5% | 16.0% |
| Interest on investment at 5 percent | $____ | $ 1681 | $ 1538 | $ 1619 | $ 1691 | $ 1650 |
| LABOR AND MANAGEMENT EARNINGS | ____ | 7791 | 6665 | 3286 | 3656 | 4550 |

## CHART 3.--YOUR EXTENSION SERVICE LADDER, 1947

What was your principal source of income? How high did your earnings go? One of the signs (+) on this chart represents your farm. The average rate earned for each group of farms is indicated by a line across the column.

MAJOR SOURCE OF INCOME



Three farms had earnings too low to go on this chart: Two were dairy farms and one a hog farm.

In 1948 you can increase your farm earnings by (1) growing the kinds of crops and by keeping the kinds of livestock that produce the most profit as indicated by the AGRICULTURAL OUTLOOK; (2) getting high per acre crop yields by applying good land use, seed selection, fertilization, and cultural practices; (3) proper breeding, feeding, and management of livestock; (4) selling on the best seasonal markets; and (5) making the most efficient use of available labor, machinery, buildings, and equipment. Because of short supplies, you will need to conserve tractor fuel and oil.

IN 1948 BUY ONLY NEEDED CAPITAL ITEMS, AND REDUCE INEFFICIENCIES IN FARM OPERATIONS.

TABLE 3.--FARM EARNINGS AND OTHER FACTORS RELATED TO SIZE OF FARM AND VALUE OF IMPROVED LAND, Farming-Type Area 5, 1947

| | Total acres per farm | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 60 to 140 | | 141 to 220 | | 221 to 300 | | 301 or more | |
| Value of improved land | $80 or less | $81 or more | $80 or less | $81 or more | $80 or less | $81 or more | $80 or less | $81 or more |
| Item | | | | | | | | |
| Number of farms | 10 | 11 | 26 | 14 | 15 | 14 | 13 | 13 |
| Acres per farm | 121 | 121 | 183 | 178 | 250 | 258 | 386 | 400 |
| Value of improved land per acre | $ 60 | $ 109 | $ 64 | $ 114 | $ 62 | $ 98 | $ 65 | $ 104 |
| Total investment per acre | 123 | 185 | 121 | 193 | 131 | 174 | 104 | 158 |
| Percent of land tillable | 83% | 90% | 83% | 88% | 74% | 86% | 72% | 85% |
| Percent of tillable land in: | | | | | | | | |
| Corn | 22.3 | 38.2 | 31.6 | 34.3 | 33.2 | 30.4 | 27.2 | 24.7 |
| Oats | 6.9 | 7.0 | 6.7 | 8.3 | 6.4 | 11.4 | 5.2 | 8.9 |
| Wheat | 10.0 | 7.5 | 8.1 | 8.6 | 6.8 | 5.6 | 11.2 | 8.2 |
| Soybeans | 21.4 | 31.2 | 22.2 | 24.9 | 26.6 | 31.0 | 25.9 | 31.0 |
| Hay and pasture | 36.1 | 14.9 | 27.3 | 22.2 | 26.6 | 16.9 | 26.2 | 21.4 |
| Other crops | 3.3 | 1.2 | 4.1 | 1.7 | .4 | 4.7 | 4.3 | 5.8 |
| Crop yields | | | | | | | | |
| Corn, bushels | 33.1 | 40.4 | 30.2 | 40.5 | 36.7 | 37.5 | 36.3 | 35.0 |
| Oats, bushels | 19.2 | 22.2 | 27.8 | 32.6 | 27.9 | 38.0 | 19.3 | 33.4 |
| Wheat, bushels | 23.4 | 27.5 | 20.9 | 28.2 | 26.1 | 28.3 | 23.3 | 27.4 |
| Soybeans, bushels | 15.2 | 18.5 | 17.4 | 20.3 | 16.5 | 20.9 | 19.6 | 18.4 |
| Livestock factors | | | | | | | | |
| Feed fed per acre to prod. livestock | $ 27.03 | $ 28.66 | $ 27.86 | $ 39.18 | $ 32.21 | $ 27.13 | $ 22.01 | $ 29.16 |
| Returns per $100 feed fed | 164 | 150 | 143 | 152 | 165 | 151 | 144 | 142 |
| Percent of income from livestock | 72% | 52% | 70% | 67% | 79% | 54% | 63% | 64% |
| Expense factors | | | | | | | | |
| Total months of labor | 13.1 | 15.2 | 18.5 | 19.1 | 25.0 | 22.4 | 29.9 | 29.5 |
| Labor cost per crop acre | $ 24.41 | $ 20.09 | $ 19.34 | $ 17.51 | $ 21.48 | $ 15.96 | $ 17.55 | $ 13.64 |
| Power and machinery cost per crop acre | 16.92 | 13.80 | 13.98 | 12.67 | 17.04 | 12.47 | 13.80 | 11.26 |
| Land improvement cost per acre | 1.70 | 2.30 | 1.77 | 2.29 | 2.12 | 2.51 | 1.66 | 2.23 |
| Buildings cost per acre | 2.06 | 2.16 | 1.53 | 1.95 | 1.96 | 1.79 | 1.14 | 1.26 |
| Earnings | | | | | | | | |
| Gross earnings per acre | $ 58.91 | $ 77.99 | $ 53.52 | $ 86.01 | $ 64.65 | $ 72.36 | $ 49.24 | $ 62.94 |
| Gross expense per acre | 35.77 | 34.81 | 29.19 | 33.63 | 31.42 | 30.56 | 22.98 | 24.88 |
| Net earnings per acre | $ 23.14 | $ 43.18 | $ 24.33 | $ 52.38 | $ 33.23 | $ 41.80 | $ 26.26 | $ 38.06 |
| Rate earned on investment | 18.8% | 23.4% | 20.2% | 27.1% | 25.4% | 24.1% | 25.2% | 24.1% |
| Labor and management earnings | $3155 | $5526 | $4834 | $8865 | $8257 | $10065 | $9633 | $13634 |

TABLE 4.--FARM EARNINGS AND OTHER FACTORS RELATED TO SOURCE OF INCOME
Accounting Farms in Farming-Type Area 5, 1947

| Item | Source of income<br>Grain<br>40% + | <br>Dairy<br>40% + | <br>Hogs<br>40% + | <br>General livestock<br>40% + |
|---|---|---|---|---|
| Number of farms.................... | 28 | 11 | 42 | 35 |
| Acres in farm...................... | 254 | 222 | 230 | 233 |
| Rate earned on investment......... | 24.5% | 14.1% | 25.3% | 24.4% |
| Feed fed per acre to prod. l.s. .. | $ 14.50 | $ 31.08 | $ 38.36 | $ 28.54 |
| Returns per $100 feed fed......... | 149 | 153 | 152 | 145 |
| Number of cows milked............. | 3.8 | 18.6 | 9.6 | 8.4 |
| Dairy returns per cow milked...... | $198 | $349 | $210 | $221 |
| Number of litters farrowed........ | 6.4 | 5.2 | 25.7 | 13.9 |
| Number of pigs weaned per litter.. | 6.3 | 5.9 | 6.1 | 6.0 |
| Returns per litter farrowed....... | $403 | $371 | $390 | $342 |

This report is primarily for use by accounting farmers. It gives them standards for comparing their operations with those of other farmers in their area. These standards take into consideration differences in quality of land, size of farm, source of income, and other farm organization factors. Thus they are flexible and are adaptable to individual farms.

What to do with this report. After applying the "yardsticks" in this report to your own farm, you may find it advisable to make changes in the organization and operation of your farming business. You may be helped by following the suggestions in "Planning the Farm Business." You can get this new publication from your county farm adviser.

TABLE 5.--LABOR COST AND POWER AND MACHINERY COST PER CROP ACRE FOR DIFFERENT SIZES OF FARMS AND DIFFERENT AMOUNTS OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 5, 1947

| Crop acres | Feed fed per acre<br>Less than $20.00 | <br>$20.00 to $39.99 | <br>$40.00 or more | Feed fed per acre<br>Less than $20.00 | <br>$20.00 to $39.99 | <br>$40.00 or more |
|---|---|---|---|---|---|---|
| | (labor cost per crop acre) | | | (power and machinery cost per crop acre) | | |
| 50- 99 | $23.10 | $24.00 | $24.80 | $14.90 | $15.40 | $16.10 |
| 100-149 | 18.00 | 18.60 | 21.00 | 13.70 | 14.20 | 15.20 |
| 150-199 | 16.50 | 17.40 | 18.40 | 11.90 | 13.10 | 14.60 |
| 200 or more | 12.80 | 14.50 | 15.50 | 10.40 | 12.00 | 13.70 |

IN 1948 BUY ONLY NEEDED CAPITAL ITEMS AND REDUCE INEFFICIENCIES IN FARM OPERATIONS.

Cooperative Extension Work in Agriculture and Home Economics
University of Illinois College of Agriculture and the United States
Department of Agriculture cooperating. H. P. Rusk, Director.
Acts approved by Congress May 8 and June 30, 1914

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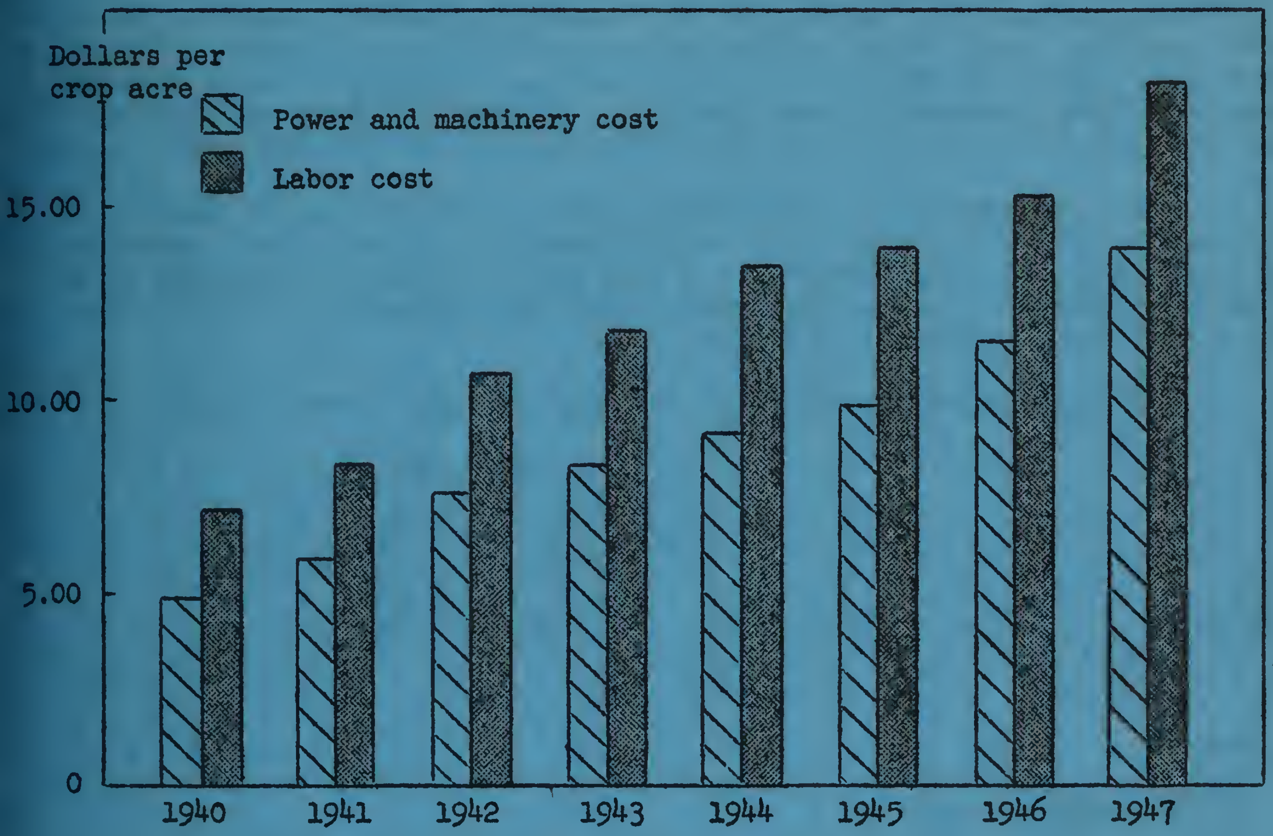
# YOUR FARM BUSINESS REPORT . . . . 1947



Power and Machinery and Labor Cost
per Crop Acre, Farming-Type Area 5, 1940-47

FARMING-TYPE AREA FIVE
West Central General Farming Area

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Name______________________________

Department of Agricultural Economics, University of Illinois
College of Agriculture, Extension Service in Agriculture and Home Economics
Urbana, Illinois

UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE
AGRICULTURAL EXPERIMENT STATION
URBANA, ILLINOIS

Department of
Agricultural Economics

Dear Cooperator:

We are returning to you the summary of the farm account you have kept in cooperation with this department. For 32 years Illinois farmers have been working with us on this project. The results are measured in terms of superior management higher earnings, and a better living on thousands of Illinois farms. Although we lieve that cooperators receive the major benefits, others also profit from the results which your cooperation makes possible. We sincerely hope that you as well a your neighbors will continue to benefit from this project for many years to come.

Farm earnings have recently been high, partly because of higher price le els resulting from the recent war. During periods of rising prices, costs tend to lag behind prices of farm products. As high prices continue, costs tend to catch In the year ahead, it will be important to pay close attention to costs. This report gives special attention to farming costs.

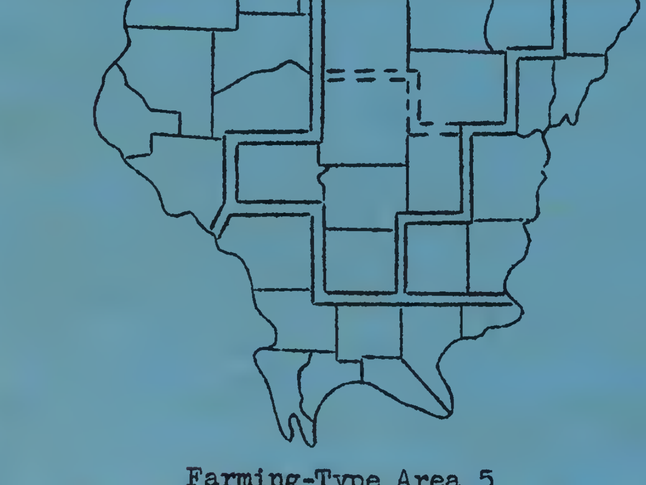
The map below shows the area to which averages in this report refer.

Very truly yours,

H. C. M. Case

H. C. M. Case
Head of Department

HCMC:pm



Farming-Type Area 5
West Central General Farming Area

Counties and Farm Advisers
Cooperating in This Report

| | |
|---|---|
| Christian | C. S. Love |
| Greene | R. H. Roll |
| Jersey | C. T. Kibler |
| Macoupin | O. O. Mowery |
| Montgomery | E. D. Peterson |
| Scott | G. E. Lampe |
| Shelby | G. F. Sons |

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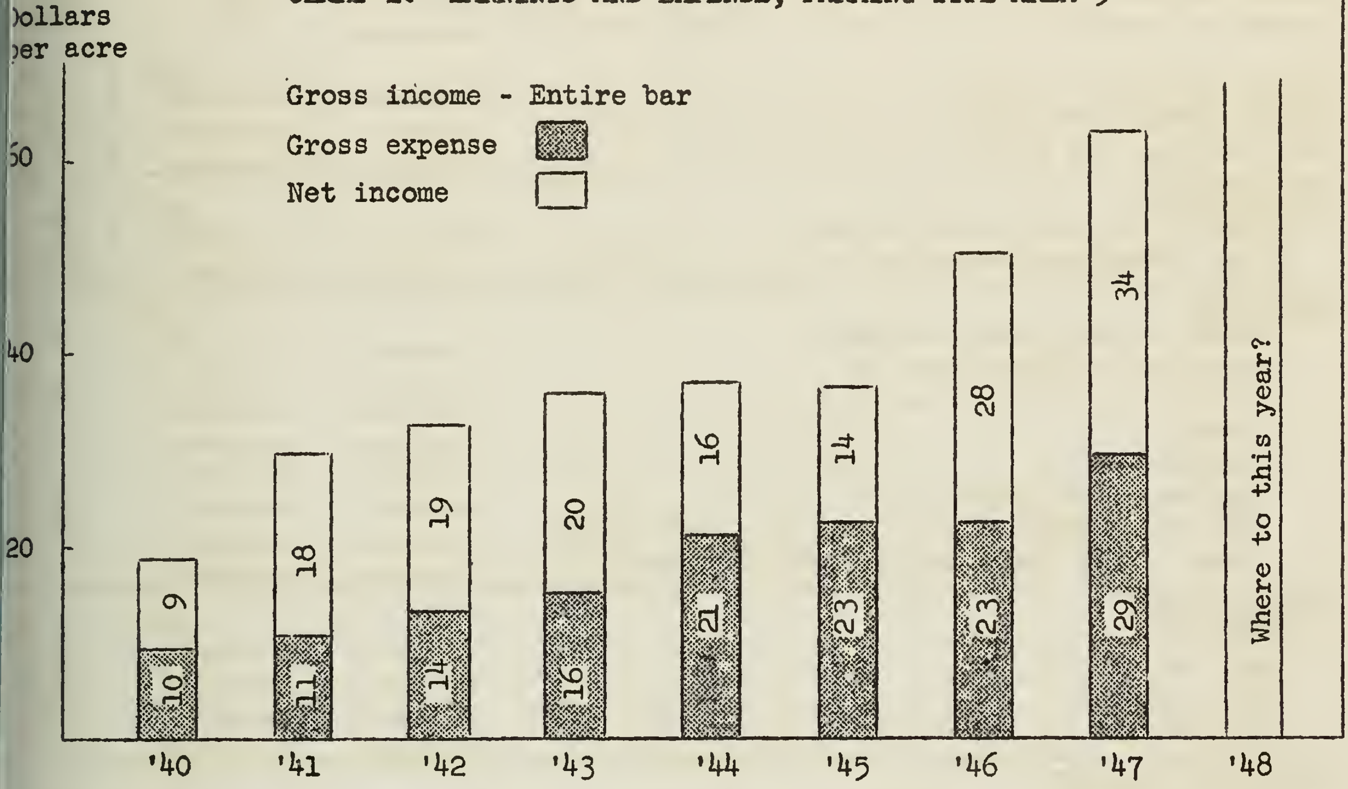
## Annual Farm Business Report

# ONE HUNDRED SEVENTEEN FARMS IN FARMING-TYPE AREA 5, 1947[a]

J. B. Cunningham, and A. G. Mueller

In 1947 net farm earnings in the west-central general farming area reached an all-time high (Chart 1). Earnings averaged $34.09 in 1947, $27.89 in 1946, $13.80 in 1945, and $9.04 in 1940. The 1947 increase over 1946 was due principally to higher prices for farm products.

CHART 1.--EARNINGS AND EXPENSE, FARMING-TYPE AREA 5



The chart above shows upward trends in per acre gross earnings, gross expenses, and net earnings since 1940. In recent years gross earnings have gone up faster than gross expenses, leaving a much wider margin of profit in 1946 and 1947 than in 1940 and 1941. We may expect a decrease in gross earnings in 1948 and another lag in expenses that will result in lower net earnings than in 1947.

Farm expenses in 1948 will probably be as high as they were in 1947. There is little chance for lower labor cost (mostly family labor) or for lower power and machinery cost, but farmers may have opportunities to lower these costs on their individual farms. Average gross income may be lower than in 1947. Therefore, watch your expenses. Money spent in 1948 for land improvements and for necessary repairs will probably give better returns than new investments in farm real estate, new buildings, machinery, and purebred livestock, or other items for which you may have to pay highly inflated prices. Such items may have to be depreciated during periods of lower prices. IN 1948 BUY ONLY NEEDED CAPITAL ITEMS, AND REDUCE INEFFICIENCIES IN FARM OPERATIONS.

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[a] This report includes records only from those counties in Farming-Type Area 5 not in an organized Farm Bureau Farm Management Service area.

TABLE 1.--FACTORS USED TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 5, 1947

| Item | Your farm | Standards for your farm | Avera of 11 farms |
|---|---|---|---|
| (Those capitalized used in chart on opposite page) | | | |
| RATE EARNED ON INVESTMENT.......................... | ______% | 23.8 % | 23.8 |
| Labor and management earnings...................... | $______ | $______ | $7791 |
| Acres in farm...................................... | ______ | 234 | 234 |
| Acres in crops..................................... | ______ | 158 | 158 |
| GROSS EARNINGS PER ACRE............................ | $______ | $______ a/ | $ 63.4 |
| GROSS EXPENSE PER ACRE............................. | ______ | ______ | 29.4 |
| Net earnings per acre.............................. | $______ | $______ | $ 34.0 |
| Investments | | | |
| Value of improved land per acre................ | $______ | $______ a/ | $ 84 |
| Total investment per acre...................... | ______ | ______ | 143 |
| Land use | | | |
| Percent of land area tillable.................. | ______ | ______ a/ | 81.4 |
| Percent of tillable land in: | | | |
| Corn....................................... | ______ | ______ | 29.8 |
| Oats....................................... | ______ | ______ | 7.7 |
| Wheat...................................... | ______ | ______ | 8.2 |
| Soybeans for grain......................... | ______ | ______ | 27.0 |
| HAY AND PASTURE (incl. cl. & gr. seed crops) | ______ | ______ | 23.6 |
| Other crops (includes idle tillable land)..... | ______ | ______ | 3.7 |
| Crop yields | | | |
| CORN, BU. ..................................... | ______ | ______ a/ | 35.8 |
| OATS, BU. ..................................... | ______ | ______ | 30.1 |
| WHEAT, BU. .................................... | ______ | ______ | 25.3 |
| SOYBEANS, BU. ................................. | ______ | ______ | 18.6 |
| Livestock factors | | | |
| FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK....... | $______ | $______ b/ | $ 29 |
| RETURNS PER $100 FEED FED (pasture not included) | $______ | $______ | $ 150 |
| Number of cows milked.......................... | ______ | ______ | 10.9 |
| DAIRY RETURNS PER COW MILKED................... | $______ | $______ | $ 260 |
| Number of litters farrowed..................... | ______ | ______ | 18.8 |
| NUMBER OF PIGS WEANED PER LITTER............... | ______ | ______ | 6.1 |
| Returns per litter farrowed.................... | $______ | $______ | $ 381 |
| Number of hens................................. | ______ | 140 | 140 |
| EGG RETURNS PER HEN............................ | $______ | $ 4.15 | $ 4.1 |
| Expense factors | | | |
| LABOR: COST PER CROP ACRE...................... | $______ | $______ c/ | $ 18.0 |
| " Total months of labor................... | ______ | ______ a/ | 21.9 |
| POWER AND MACHINERY COST PER CROP ACRE......... | $______ | $______ c/ | $ 13.7 |
| Land improvement cost per acre................. | ______ | ______ a/ | 2.0 |
| BUILDINGS COST PER ACRE........................ | ______ | ______ a/ | 1.6 |

a/ Table 3. Size of farm and value of improved land.
b/ Table 4. Source of income.
c/ Table 5. Crop acres and amount of feed fed per acre.
d/ Farms with over $300 dairy sales.
e/ Farms buying feeder pigs excluded.
f/ Farms with more than 50 hens.

### CHART 2.--USE THIS CHART TO STUDY YOUR BUSINESS
### Accounting Farms in Farming-Type Area 5, 1947

The double line across the middle of the page represents the average for farms which are similar to your farm for the indicated factor. By drawing a line across each column at the place where your farm stands in that factor, you can compare your efficiency with that of other similar accounting farms in your area.

| | | | | Factors that affect earnings | | | | | | | | | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Crop yields | | | | Livestock | | | | | | | |
| Rate earned on investment, percent | Gross earnings per acre | Gross expenses per acre | Percent of tillable land in hay and pasture | Corn, bu. | Oats, bu. | Wheat, bu. | Soybeans, bu. | Feed fed per acre to prod. livestock | Returns per $100 feed fed prod. l.s. | Dairy returns per cow milked | No. of pigs weaned per litter | Egg returns per hen | Labor cost per crop acre | Power and machinery cost per crop acre | Buildings cost per acre |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 38.8 | | | | | | | | | | | | | | | |
| 33.8 | | | | | | | | | | | | | | | |
| 28.8 | | | | | | | | | | | | | | | |
| 23.8 | | | | | | | | | | | | | | | |
| 18.8 | | | | | | | | | | | | | | | |
| 13.8 | | | | | | | | | | | | | | | |
| 8.8 | | | | | | | | | | | | | | | |
| 3.8 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 5% | $5 | $4 | 5% | 4 | 4 | 2 | 2 | $5 | $20 | $10 | .5 | $.50 | $1 | $1 | $.30 |

*Each space between lines represents the value indicated at bottom of each column.

(Higher values are recorded above the center of the page and lower values below, except for expenses, which are recorded in the opposite direction.)

TABLE 2.--INVESTMENTS, INVENTORY CHANGES, CASH EXPENSES, CASH RECEIPTS, AND EARNING
Accounting Farms in Farming-Type Area 5, 1947

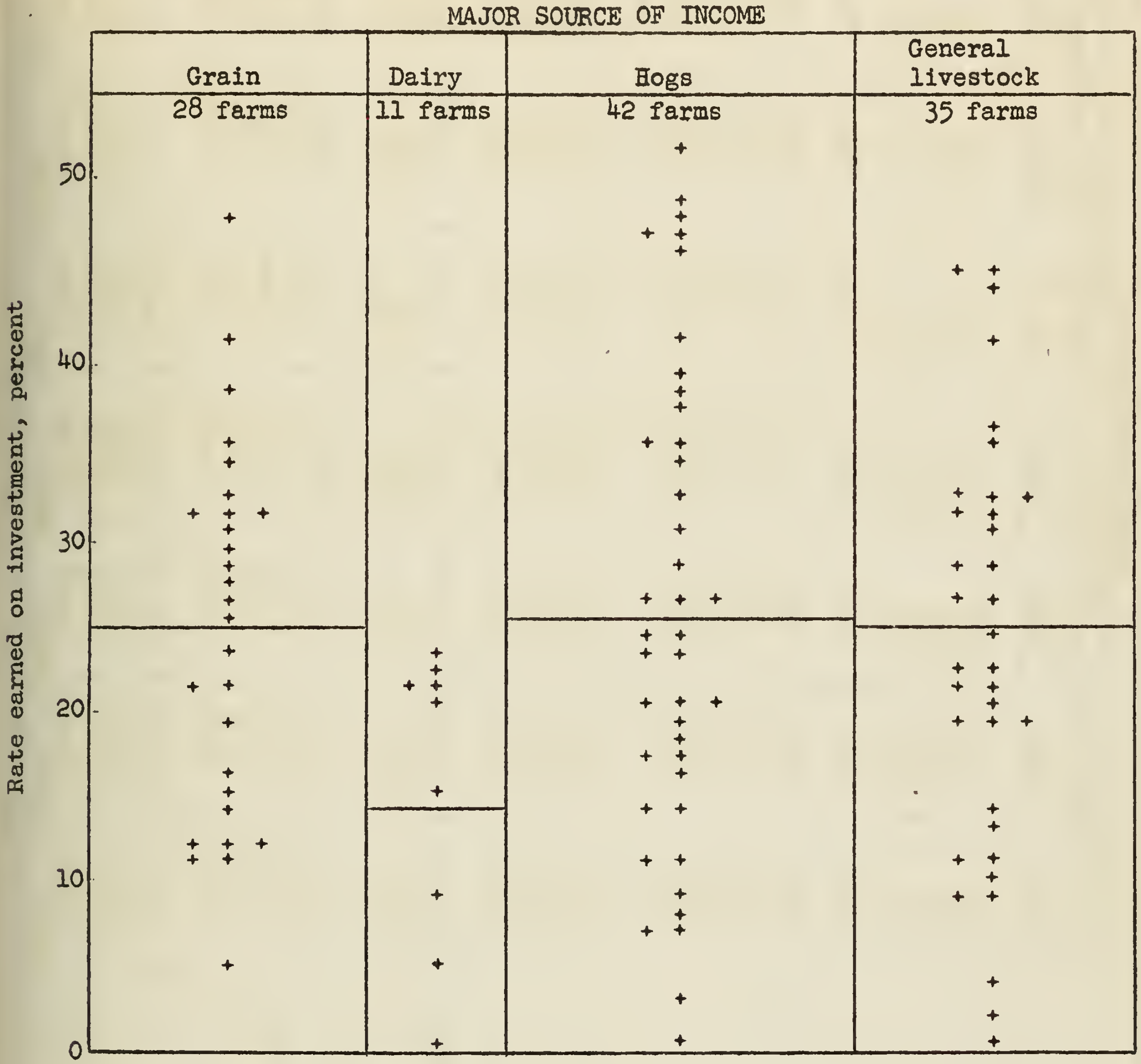
| Item | Capital investments | | Change in inventory | |
|---|---|---|---|---|
| | Your farm | Average of 117 farms | Your farm | Average of 117 farms |
| Land | $ | $ 17914 | $ -- | $ -- |
| Land improvements | | 1024 | | 307 |
| Farm buildings | | 3383 | | 77 |
| Horses | | 117 | | -26 |
| Prod. l.s.: Cattle | | 2159 | | 302 |
| Hogs | | 1569 | | 149 |
| Sheep | | 49 | | 77 |
| Poultry | | 149 | | -5 |
| Total productive livestock | ( ) | ( 3926 ) | ( ) | ( 523 ) |
| Feed, grain, and seeds | | 4391 | | 420 |
| Machinery and equipment | | 2709 | | 614 |
| Automobile (farm share) | | 157 | | 169 |
| Totals | $ | $ 33621 | $ | $ 2084 |

| Item | Cash expenses | | Cash receipts | |
|---|---|---|---|---|
| | Your farm | Average of 117 farms | Your farm | Average of 117 farms |
| Land improvements | $ | $ 802 | $ | $ 9 |
| Farm buildings | | 460 | | 6 |
| Horses | | 10 | | 15 |
| Prod. l.s.: Cattle | | 1192 | | 2698 |
| Dairy sales | -- | -- | | 1671 |
| Hogs | | 306 | | 5830 |
| Sheep | | 123 | | 141 |
| Poultry | | 47 | | 147 |
| Egg sales | -- | -- | | 427 |
| Total productive livestock | ( ) | ( 1668 ) | ( ) | ( 10914 ) |
| Feed, grain, and seeds | | 2472 | | 6045 |
| Machinery and equipment | | 2841 | | 401 |
| Automobile (farm share) | | 433 | | 62 |
| Livestock expense | | 128 | -- | -- |
| A.A.A. receipts | -- | -- | | 92 |
| Labor | | 880 | | 27 |
| Taxes | | 412 | -- | -- |
| Miscellaneous | | 50 | | 4 |
| Totals | $ | $ 10156 | $ | $ 17575 |

| Item | Earnings | | | | | |
|---|---|---|---|---|---|---|
| | Your farm | Annual averages | | | | |
| | | 1947 | 1946 | 1945 | 1944 | 1943 |
| Cash balance | $ | $ 7419 | $ 5797 | $ 5159 | $ 5707 | $ 5477 |
| Inventory change | | 2084 | 2437 | -152 | -273 | 730 |
| Farm products used in household | | 466 | 419 | 384 | 391 | 373 |
| RECEIPTS LESS EXPENSE | $ | $ 9969 | $ 8653 | $ 5391 | $ 5825 | $ 6580 |
| Family labor | | 497 | 450 | 486 | 473 | 330 |
| RETURN FOR CAPITAL, LABOR & MGT. | $ | $ 9472 | $ 8203 | $ 4905 | $ 5347 | $ 6200 |
| Operator's labor | | 1478 | 1283 | 1238 | 1130 | 905 |
| NET EARNINGS (Return for cap.&mgt.) | $ | $ 7994 | $ 6920 | $ 3667 | $ 4217 | $ 5295 |
| RATE EARNED ON INVESTMENT | % | 23.8% | 22.5% | 11.3% | 12.5% | 16.0% |
| Interest on investment at 5 percent | $ | $ 1681 | $ 1538 | $ 1619 | $ 1691 | $ 1650 |
| LABOR AND MANAGEMENT EARNINGS | | 7791 | 6665 | 3286 | 3656 | 4550 |

## CHART 3.--YOUR EXTENSION SERVICE LADDER, 1947

What was your principal source of income? How high did your earnings go? One of the signs (+) on this chart represents your farm. The average rate earned for each group of farms is indicated by a line across the column.



Three farms had earnings too low to go on this chart: Two were dairy farms and one a hog farm.

In 1948 you can increase your farm earnings by (1) growing the kinds of crops and by keeping the kinds of livestock that produce the most profit as indicated by the AGRICULTURAL OUTLOOK; (2) getting high per acre crop yields by applying good land use, seed selection, fertilization, and cultural practices; (3) proper breeding, feeding, and management of livestock; (4) selling on the best seasonal markets; and (5) making the most efficient use of available labor, machinery, buildings, and equipment. Because of short supplies, you will need to conserve tractor fuel and oil.

IN 1948 BUY ONLY NEEDED CAPITAL ITEMS, AND REDUCE INEFFICIENCIES IN FARM OPERATIONS.

## TABLE 3.--FARM EARNINGS AND OTHER FACTORS RELATED TO SIZE OF FARM AND VALUE OF IMPROVED LAND, Farming-Type Area 5, 1947

| | Total acres per farm | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 60 to 140 | | 141 to 220 | | 221 to 300 | | 301 or more | |
| Value of improved land | $80 or less | $81 or more | $80 or less | $81 or more | $80 or less | $81 or more | $80 or less | $81 or more |
| Item | | | | | | | | |
| Number of farms | 10 | 11 | 26 | 14 | 15 | 14 | 13 | 13 |
| Acres per farm | 121 | 121 | 183 | 178 | 250 | 258 | 386 | 400 |
| Value of improved land per acre | $ 60 | $ 109 | $ 64 | $ 114 | $ 62 | $ 98 | $ 65 | $ 104 |
| Total investment per acre | 123 | 185 | 121 | 193 | 131 | 174 | 104 | 158 |
| Percent of land tillable | 83% | 90% | 83% | 88% | 74% | 86% | 72% | 85% |
| Percent of tillable land in: | | | | | | | | |
| Corn | 22.3 | 38.2 | 31.6 | 34.3 | 33.2 | 30.4 | 27.2 | 24.7 |
| Oats | 6.9 | 7.0 | 6.7 | 8.3 | 6.4 | 11.4 | 5.2 | 8.9 |
| Wheat | 10.0 | 7.5 | 8.1 | 8.6 | 6.8 | 5.6 | 11.2 | 8.2 |
| Soybeans | 21.4 | 31.2 | 22.2 | 24.9 | 26.6 | 31.0 | 25.9 | 31.0 |
| Hay and pasture | 36.1 | 14.9 | 27.3 | 22.2 | 26.6 | 16.9 | 26.2 | 21.4 |
| Other crops | 3.3 | 1.2 | 4.1 | 1.7 | .4 | 4.7 | 4.3 | 5.8 |
| Crop yields | | | | | | | | |
| Corn, bushels | 33.1 | 40.4 | 30.2 | 40.5 | 36.7 | 37.5 | 36.3 | 35.0 |
| Oats, bushels | 19.2 | 22.2 | 27.8 | 32.6 | 27.9 | 38.0 | 19.3 | 33.4 |
| Wheat, bushels | 23.4 | 27.5 | 20.9 | 28.2 | 26.1 | 28.3 | 23.3 | 27.4 |
| Soybeans, bushels | 15.2 | 18.5 | 17.4 | 20.3 | 16.5 | 20.9 | 19.6 | 18.4 |
| Livestock factors | | | | | | | | |
| Feed fed per acre to prod. livestock | $ 27.03 | $ 28.66 | $ 27.86 | $ 39.18 | $ 32.21 | $ 27.13 | $ 22.01 | $ 29.16 |
| Returns per $100 feed fed | 164 | 150 | 143 | 152 | 165 | 151 | 144 | 142 |
| Percent of income from livestock | 72% | 52% | 70% | 67% | 79% | 54% | 63% | 64% |
| Expense factors | | | | | | | | |
| Total months of labor | 13.1 | 15.2 | 18.5 | 19.1 | 25.0 | 22.4 | 29.9 | 29.5 |
| Labor cost per crop acre | $ 24.41 | $ 20.09 | $ 19.34 | $ 17.51 | $ 21.48 | $ 15.96 | $ 17.55 | $ 13.64 |
| Power and machinery cost per crop acre | 16.92 | 13.80 | 13.98 | 12.67 | 17.04 | 12.47 | 13.80 | 11.26 |
| Land improvement cost per acre | 1.70 | 2.30 | 1.77 | 2.29 | 2.12 | 2.51 | 1.66 | 2.23 |
| Buildings cost per acre | 2.06 | 2.16 | 1.53 | 1.95 | 1.96 | 1.79 | 1.14 | 1.26 |
| Earnings | | | | | | | | |
| Gross earnings per acre | $ 58.91 | $ 77.99 | $ 53.52 | $ 86.01 | $ 64.65 | $ 72.36 | $ 49.24 | $ 62.94 |
| Gross expense per acre | 35.77 | 34.81 | 29.19 | 33.63 | 31.42 | 30.56 | 22.98 | 24.88 |
| Net earnings per acre | $ 23.14 | $ 43.18 | $ 24.33 | $ 52.38 | $ 33.23 | $ 41.80 | $ 26.26 | $ 38.06 |
| Rate earned on investment | 18.8% | 23.4% | 20.2% | 27.1% | 25.4% | 24.1% | 25.2% | 24.1% |
| Labor and management earnings | $3155 | $5526 | $4834 | $8865 | $8257 | $10065 | $9633 | $13634 |

TABLE 4.--FARM EARNINGS AND OTHER FACTORS RELATED TO SOURCE OF INCOME
Accounting Farms in Farming-Type Area 5, 1947

| Item | Source of income<br>Grain 40% + | <br>Dairy 40% + | <br>Hogs 40% + | <br>General livestock 40% + |
|---|---|---|---|---|
| Number of farms.................. | 28 | 11 | 42 | 35 |
| Acres in farm..................... | 254 | 222 | 230 | 233 |
| Rate earned on investment.......... | 24.5% | 14.1% | 25.3% | 24.4% |
| Feed fed per acre to prod. l.s. .. | $ 14.50 | $ 31.08 | $ 38.36 | $ 28.54 |
| Returns per $100 feed fed......... | 149 | 153 | 152 | 145 |
| Number of cows milked............. | 3.8 | 18.6 | 9.6 | 8.4 |
| Dairy returns per cow milked...... | $198 | $349 | $210 | $221 |
| Number of litters farrowed........ | 6.4 | 5.2 | 25.7 | 13.9 |
| Number of pigs weaned per litter.. | 6.3 | 5.9 | 6.1 | 6.0 |
| Returns per litter farrowed....... | $403 | $371 | $390 | $342 |

This report is primarily for use by accounting farmers. It gives them standards for comparing their operations with those of other farmers in their area. These standards take into consideration differences in quality of land, size of farm, source of income, and other farm organization factors. Thus they are flexible and are adaptable to individual farms.

What to do with this report. After applying the "yardsticks" in this report to your own farm, you may find it advisable to make changes in the organization and operation of your farming business. You may be helped by following the suggestions in "Planning the Farm Business." You can get this new publication from your county farm adviser.

TABLE 5.--LABOR COST AND POWER AND MACHINERY COST PER CROP ACRE FOR DIFFERENT SIZES OF FARMS AND DIFFERENT AMOUNTS OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 5, 1947

| Crop acres | Feed fed per acre<br>Less than $20.00 | <br>$20.00 to $39.99 | <br>$40.00 or more | Feed fed per acre<br>Less than $20.00 | <br>$20.00 to $39.99 | <br>$40.00 or more |
|---|---|---|---|---|---|---|
| | (labor cost per crop acre) | | | (power and machinery cost per crop acre) | | |
| 50- 99 | $23.10 | $24.00 | $24.80 | $14.90 | $15.40 | $16.10 |
| 100-149 | 18.00 | 18.60 | 21.00 | 13.70 | 14.20 | 15.20 |
| 150-199 | 16.50 | 17.40 | 18.40 | 11.90 | 13.10 | 14.60 |
| 200 or more | 12.80 | 14.50 | 15.50 | 10.40 | 12.00 | 13.70 |

IN 1948 BUY ONLY NEEDED CAPITAL ITEMS AND REDUCE INEFFICIENCIES IN FARM OPERATIONS.

Cooperative Extension Work in Agriculture and Home Economics
University of Illinois College of Agriculture and the United States
Department of Agriculture cooperating. H. P. Rusk, Director.
Acts approved by Congress May 8 and June 30, 1914

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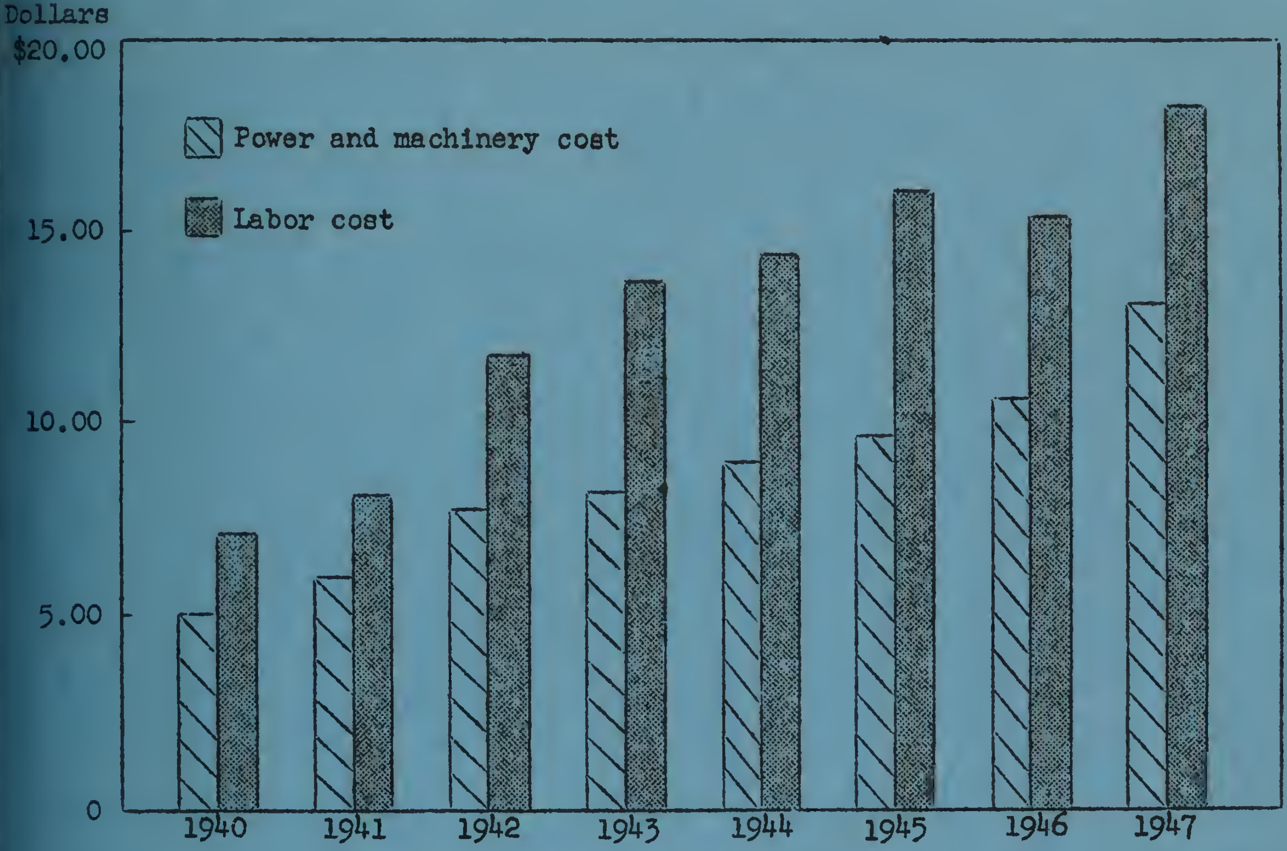
# YOUR FARM BUSINESS REPORT . . . . 1947



Power and Machinery and Labor Cost
per Crop Acre, Farming Type Area 6, 1940-47

FARMING-TYPE AREA SIX
St. Louis Dairy and Wheat Area

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Name________________________________

Department of Agricultural Economics, University of Illinois
College of Agriculture, Extension Service in Agriculture and Home Economics
Urbana, Illinois

UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE
AGRICULTURAL EXPERIMENT STATION
URBANA, ILLINOIS

Department of
Agricultural Economics

Dear Cooperator:

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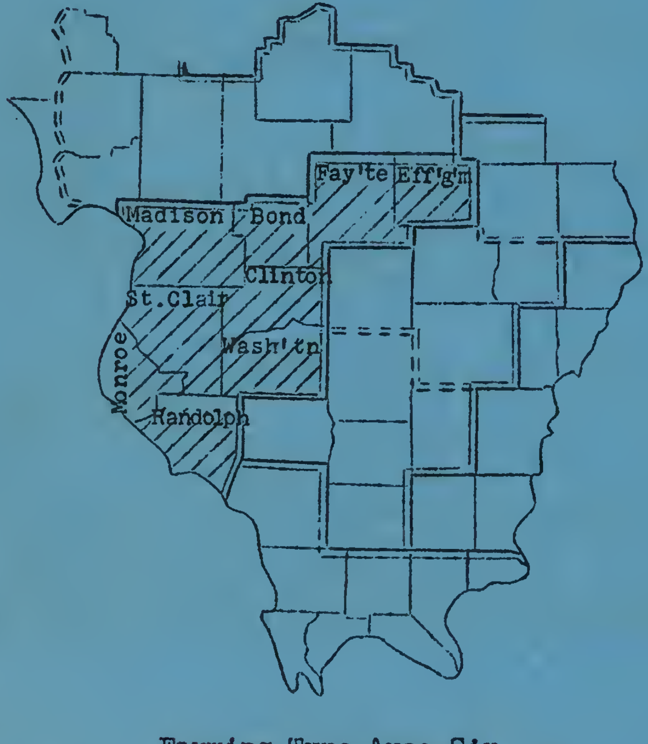
Farm earnings have recently been high, partly because of higher price levels resulting from the recent war. During periods of rising prices, costs tend to lag behind prices of farm products. As high prices continue, costs tend to catch u In the year ahead, it will be important to pay close attention to costs. This report gives special attention to farming costs.

The map below shows the area to which averages in this report refer.

Very truly yours,
H. C. M. Case

H. C. M. Case
Head of Department

HCMC:N:kl



Farming-Type Area Six
St. Louis Dairy and Wheat Area

Counties and Farm Advisers
Cooperating in This Report

| | |
|---|---|
| Bond | H. H. Bouslog |
| Clinton | F. M. Smith |
| Effingham | C. S. Cutright |
| Fayette | J. B. Turner |
| Madison | T. W. May |
| Monroe | E. S. Amrine |
| Randolph | C. F. Mees |
| St. Clair | B. W. Tillman |
| Washington | W. D. Smith |

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Annual Farm Business Report

# TWO HUNDRED THIRTY-THREE FARMS IN FARMING-TYPE AREA 6, 1947

J. B. Cunningham, E. L. Sauer, A. G. Mueller

In 1947 net farm earnings per acre in the St. Louis area reached an all-time high (Chart 1). They averaged $21.25 in 1947, $16.82 in 1946, $7.70 in 1945, and $6.90 in 1940. The 1947 increase over 1946 was due principally to higher prices for farm products and a larger wheat crop.

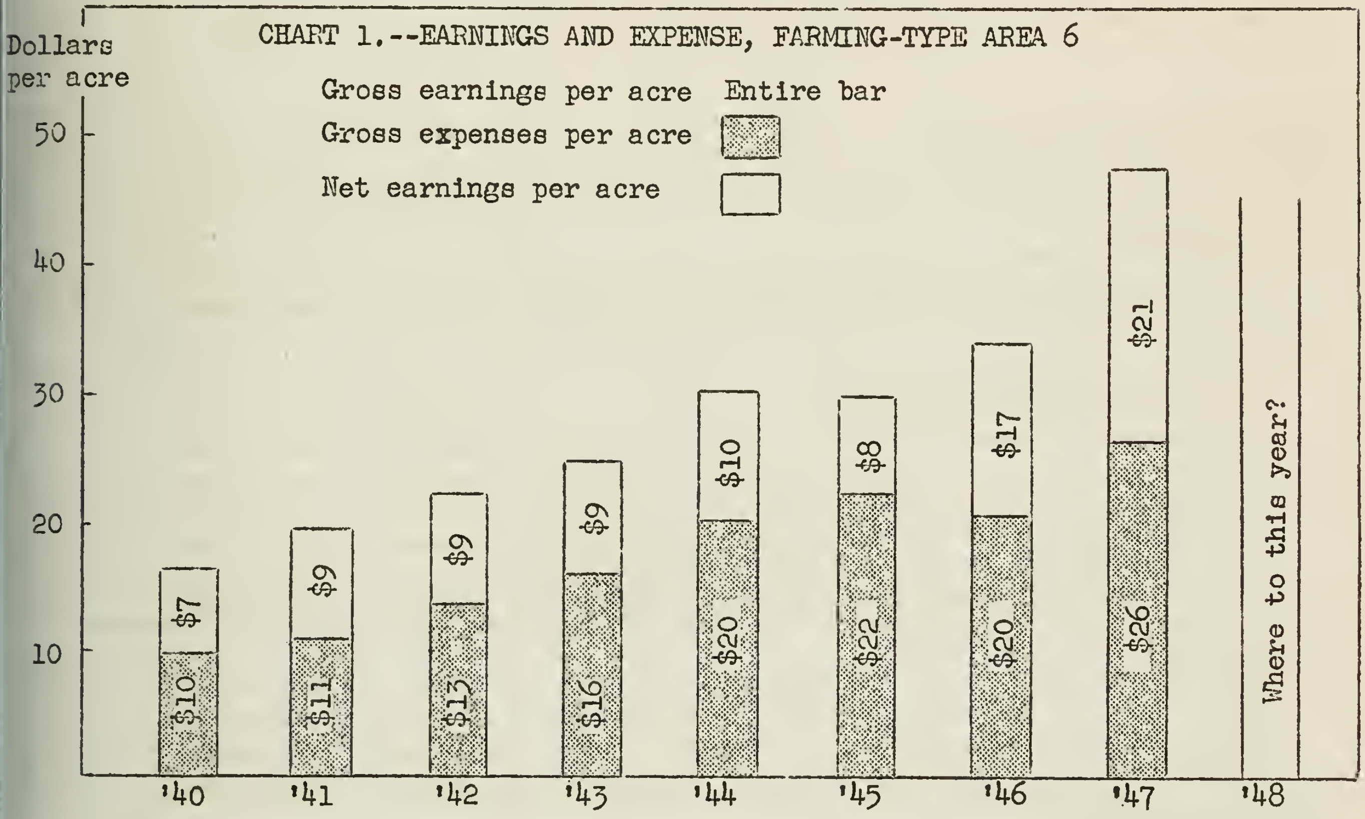


CHART 1.--EARNINGS AND EXPENSE, FARMING-TYPE AREA 6

The chart above shows the upward trends in per acre gross earnings, gross expenses, and net earnings since 1940. In recent years gross earnings have gone up faster than gross expenses, leaving a much wider margin of profit in 1946 and 1947 than in 1940 and 1941. We may expect a decrease in gross earnings in 1948 and another lag in expenses that will result in lower net earnings than in 1947.

Farm expenses in 1948 will probably be as high as they were in 1947. There is little chance for lower labor cost (mostly family labor) or for lower power and machinery cost, but farmers may have opportunities to lower these costs on their individual farms. Average gross income may be lower than in 1947. Therefore, watch your expenses. Money spent in 1948 for land improvements and for needed repairs will probably give better returns than new investments in farm real estate, new buildings, machinery, and purebred livestock, or other items for which you may have to pay highly inflated prices. Such items may have to be depreciated during periods of lower prices. IN 1948 BUY ONLY NEEDED CAPITAL ITEMS, AND REDUCE INEFFICIENCES IN OPERATING COSTS.

### TABLE 1.--FACTORS USED TO ANALYZE THE FARM BUSINESS
### Accounting Farms in Farming-Type Area 6, 1947

| Item<br>(Those capitalized used in chart on opposite page) | Your farm | Standards for your farm | Averag of 23 farms |
|---|---|---|---|
| RATE EARNED ON INVESTMENT | % | 21.2 % | 21.2 |
| Labor and management earnings | $ | $ a/ | $5062 |
| Acres in farm |  | 225 | 225 |
| Acres in crops |  | 144 | 144 |
| GROSS EARNINGS PER ACRE | $ | $ a/ | $ 47.3 |
| GROSS EXPENSE PER ACRE |  |  | 26.0 |
| Net earnings per acre | $ | $ | $ 21.2 |
| Investments |  |  |  |
| Value of improved land per acre | $ | $ a/ | $ 53 |
| Total investment per acre |  |  | 100 |
| Land use |  |  |  |
| Percent of land area tillable |  | a/ | 82.3 |
| Percent of tillable land in: |  |  |  |
| Corn |  |  | 21.4 |
| Oats |  |  | 5.0 |
| Wheat |  |  | 22.7 |
| Soybeans for grain |  |  | 14.3 |
| HAY AND PASTURE (incl. cl. & gr. seed crops) |  |  | 30.9 |
| Other crops (includes idle tillable land) |  |  | 5.7 |
| Crop yields |  |  |  |
| CORN, BU |  | a/ | 32.0 |
| OATS, BU |  |  | 25.9 |
| WHEAT, BU |  |  | 22.4 |
| SOYBEANS, BU |  |  | 14.4 |
| Livestock factors |  |  |  |
| FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK | $ | $ b/ | $ 21.2 |
| RETURNS PER $100 FEED FED(pasture not included) | $ | $ | $ 153 |
| Number of cows milked |  |  | 12.7 |
| DAIRY RETURNS PER COW MILKED | $ | $ | $ 292 |
| Number of litters farrowed |  |  | 8.6 |
| NUMBER OF PIGS WEANED PER LITTER |  |  | 6.1 |
| Returns per litter farrowed | $ | $ | $ 354 |
| Number of hens |  | 184 | 184 |
| EGG RETURNS PER HEN | $ | $ 4.61 | $ 4.6 |
| Expense factors |  |  |  |
| LABOR: COST PER CROP ACRE | $ | $ c/ | $ 18.3 |
| " Total months of labor |  | a/ | 21.8 |
| POWER AND MACHINERY COST PER CROP ACRE | $ | $ c/ | $ 13.2 |
| Land improvement cost per acre |  | a/ | 1.8 |
| BUILDINGS COST PER ACRE |  | a/ | 1.3 |

a/ Table 3. Size of farm and value of improved land.
b/ Table 4. Source of income.
c/ Table 5. Crop acres and amount of feed fed per acre.
d/ Farms with over $300 dairy sales.
e/ Farms buying feeder pigs excluded.
f/ Farms with more than 50 hens.

## CHART 2.--USE THIS CHART TO STUDY YOUR BUSINESS
### Accounting Farms in Farming-Type Area 6, 1947

The double line across the middle of the page represents the average for farms which are similar to your farm for the indicated factor. By drawing a line across each column at the place where your farm stands in that factor, you can compare your efficiency with that of other similar accounting farms in your area.

| | | | Factors that affect earnings | | | | | | | | | | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Crop yields | | | | Livestock | | | | | | | |
| Rate earned on investment, percent | Gross earnings per acre | Gross expenses per acre | Percent of tillable land in hay and pasture | Corn, bu. | Oats, bu. | Wheat, bu. | Soybeans, bu. | Feed fed per acre to prod. livestock | Returns per $100 feed fed prod. l.s. | Dairy returns per cow milked | No. of pigs weaned per litter | Egg returns per hen | Labor cost per crop acre | Power and machinery cost per crop acre | Buildings cost per acre |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 36.2 | | | | | | | | | | | | | | | |
| 31.2 | | | | | | | | | | | | | | | |
| 26.2 | | | | | | | | | | | | | | | |
| 21.2 | | | | | | | | | | | | | | | |
| 16.2 | | | | | | | | | | | | | | | |
| 11.2 | | | | | | | | | | | | | | | |
| 6.2 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| *5% | $5 | $4 | 2% | 3 bu. | 2 bu. | 1 bu. | 1 bu. | $4 | $20 | $25 | .5 | $.50 | $1 | $1 | $.25 |

*Each space between lines represents the value indicated at bottom of each column.

(Higher values are recorded above the center of the page and lower values below, except for expenses, which are recorded in the opposite direction.)

TABLE 2.--INVESTMENTS, INVENTORY CHANGES, CASH EXPENSES, CASH RECEIPTS, AND EARNI
Accounting Farms in Farming-Type Area 6, 1947

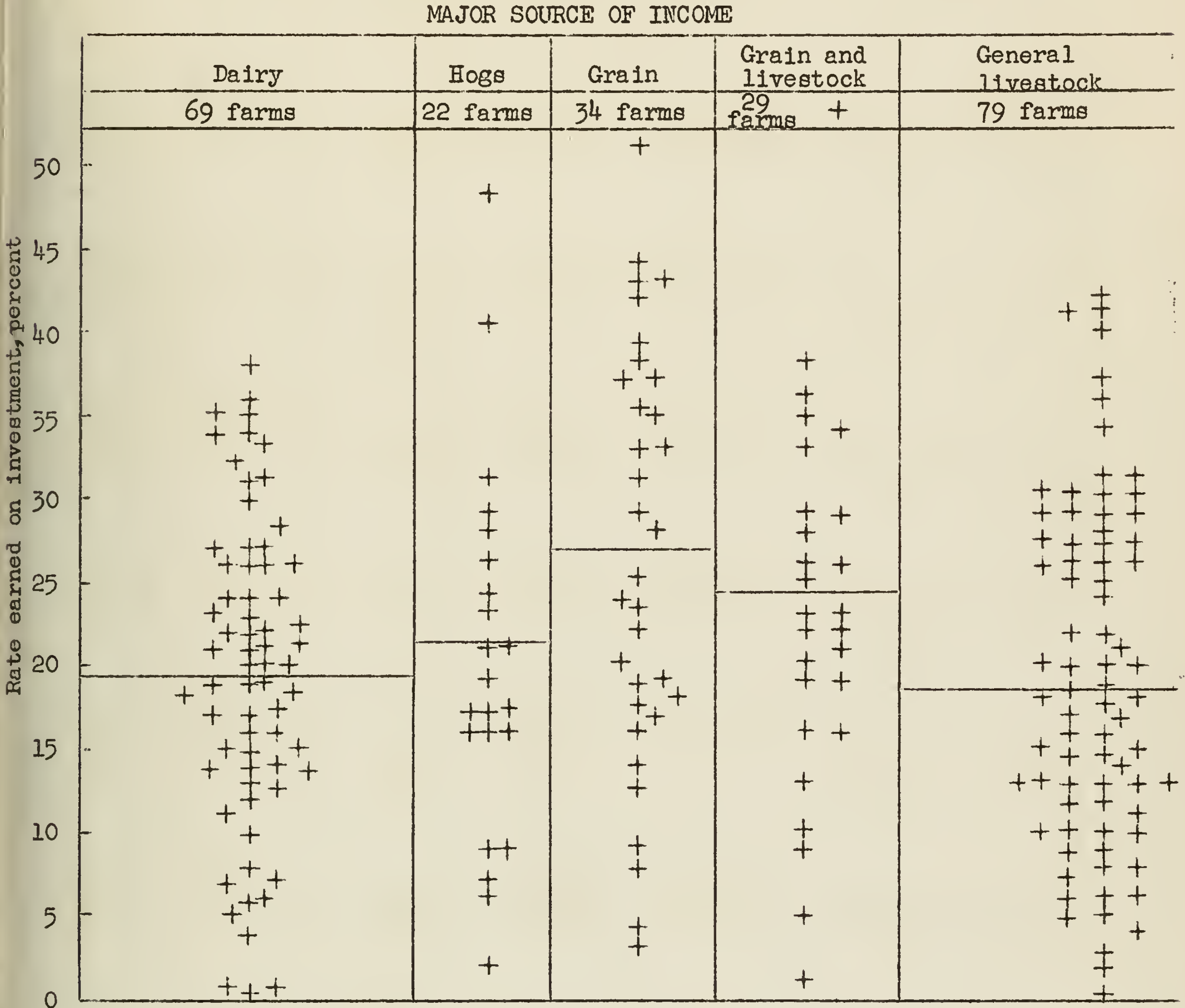
| Item | Capital investments |  | Change in inventory |  |
|---|---|---|---|---|
|  | Your farm | Average of 233 farms | Your farm | Average o 233 farms |
| Land | $ | $ 10856 | $ | $ -- |
| Land improvements |  | 632 |  | 92 |
| Farm buildings |  | 2657 |  | 177 |
| Horses |  | 141 |  | -20 |
| Prod. l.s.: Cattle |  | 1790 |  | 172 |
| Hogs |  | 666 |  | 63 |
| Sheep |  | 105 |  | 24 |
| Poultry |  | 213 |  | -9 |
| Total productive livestock | ( ) | ( 2774 ) | ( ) | ( 250 |
| Feed, grain, and seeds |  | 2935 |  | 833 |
| Machinery and equipment |  | 2371 |  | 471 |
| Automobile (farm share) |  | 156 |  | 94 |
| Totals | $ | $ 22522 | $ | $ 1897 |

| Item | Cash expenses |  | Cash receipts |  |
|---|---|---|---|---|
|  | Your farm | Average of 233 farms | Your farm | Average o 233 farms |
| Land improvements | $ | $ 503 | $ | $ 3 |
| Farm buildings |  | 472 |  | 2 |
| Horses |  | 12 |  | 13 |
| Prod. l.s.: Cattle |  | 757 |  | 1810 |
| Dairy sales | -- | -- |  | 2605 |
| Hogs |  | 153 |  | 2160 |
| Sheep |  | 94 |  | 162 |
| Poultry |  | 65 |  | 193 |
| Egg sales | -- | -- |  | 750 |
| Total productive livestock | ( ) | ( 1069 ) | ( ) | ( 7680 |
| Feed, grain, and seeds |  | 1883 |  | 3828 |
| Machinery and equipment |  | 2294 |  | 282 |
| Automobile (farm share) |  | 314 |  | 31 |
| Livestock expense |  | 94 | -- | -- |
| A.A.A. receipts | -- | -- |  | 98 |
| Labor |  | 464 |  | 32 |
| Taxes |  | 270 | -- | -- |
| Miscellaneous |  | 46 |  | 2 |
| Total | $ | $ 7421 | $ | $ 11971 |

| Item | Earnings |  |  |  |  |  |
|---|---|---|---|---|---|---|
|  | Your farm | Annual averages |  |  |  |  |
|  |  | 1947 | 1946 | 1945 | 1944 | 1943 |
| Cash balance | $ | $ 4550 | $ 3699 | $ 3429 | $ 3147 | $ 313 |
| Inventory change |  | 1897 | 1611 | -202 | 456 | 27 |
| Farm products used in household |  | 514 | 462 | 413 | 412 | 39 |
| RECEIPTS LESS EXPENSE | $ | $ 6961 | $ 5772 | $ 3640 | $ 4015 | $ 379 |
| Family labor |  | 773 | 705 | 718 | 649 | 54 |
| RETURN FOR CAPITAL, LABOR & MGT. | $ | $ 6188 | $ 5067 | $ 2922 | $ 3366 | $ 325 |
| Operator's labor |  | 1413 | 1206 | 1182 | 1062 | 90 |
| NET EARNINGS (Return for cap.& mgt.) | $ | $ 4775 | $ 3861 | $ 1740 | $ 2304 | $ 235 |
| RATE EARNED ON INVESTMENT | % | 21.2% | 18.0% | 8.2% | 11.2% | 11. |
| Interest on investment at 5 percent | $ | $ 1126 | $ 1075 | $ 1064 | $ 1032 | $ 98 |
| LABOR AND MANAGEMENT EARNINGS |  | 5062 | 3992 | 1858 | 2334 | 227 |

## CHART 3.--YOUR EXTENSION SERVICE LADDER, 1947

What was your principal source of income? How high did your earnings go? One of the signs (+) on this chart represents your farm. The average rate earned for each group of farms is indicated by a line across the column.



Five farms had earnings too low to go on this chart. One was a dairy farm, one grain, one grain and livestock, and two general livestock.

In 1948 you can keep your farm earnings high, if they have been high, or increase them if they have been low, by (1) growing the kinds of crops and by keeping the kinds of livestock that produce the most profit per unit as indicated by the AGRICULTURAL OUTLOOK; (2) getting high per acre crop yields by applying good land use, seed selection, fertilization, and cultural methods; (3) breeding, feeding, and managing healthy herds and flocks of livestock; (4) selling on the best seasonal markets; and (5) making the most efficient use of available labor, machinery, buildings, and equipment. Because of short supplies, you will need to conserve tractor fuel and oil to the extent that you can do so without materially affecting your production.

IN 1948 BUY ONLY NEEDED CAPITAL ITEMS, AND REDUCE INEFFICIENCIES IN OPERATING COSTS.

TABLE 3.--FARM EARNINGS AND OTHER FACTORS RELATED TO SIZE OF FARM AND VALUE OF IMPROVED LAND, Farming-Type Area 6, 1947

| | Total acres per farm | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 60 to 140 | | 141 to 220 | | 221 to 300 | | 301 or more | |
| Value of improved land | $50 or less | $51 or more | $50 or less | $51 or more | $50 or less | $51 or more | $50 or less | $51 or more |
| Item | | | | | | | | |
| Number of farms | 19 | 20 | 50 | 41 | 36 | 24 | 24 | 14 |
| Acres per farm | 118 | 113 | 180 | 181 | 264 | 250 | 398 | 364 |
| Value of improved land per acre | $ 40 | $ 71 | $ 40 | $ 70 | $ 42 | $ 69 | $ 37 | $ 67 |
| Total investment per acre | 96 | 152 | 93 | 131 | 85 | 113 | 72 | 108 |
| Percent of land tillable | 83% | 86% | 83% | 87% | 82% | 80% | 78% | 81% |
| Percent of tillable land in: | | | | | | | | |
| Corn | 21.4 | 30.9 | 20.0 | 26.7 | 17.9 | 24.4 | 16.3 | 23.4 |
| Oats | 5.8 | 2.9 | 5.0 | 4.7 | 5.4 | 5.4 | 5.5 | 5.0 |
| Wheat | 18.3 | 23.7 | 19.9 | 24.2 | 23.5 | 22.6 | 20.0 | 23.0 |
| Soybeans | 13.8 | 8.2 | 12.9 | 12.9 | 16.4 | 13.3 | 17.0 | 17.0 |
| Hay and pasture | 34.9 | 32.9 | 36.4 | 27.1 | 28.7 | 28.8 | 29.9 | 22.2 |
| Other crops | 5.8 | 1.4 | 5.8 | 4.4 | 8.1 | 5.5 | 11.3 | 8.9 |
| Crop yields | | | | | | | | |
| Corn, bushels | 34.4 | 33.7 | 32.8 | 36.5 | 27.7 | 31.8 | 29.2 | 36.1 |
| Oats, bushels | 24.5 | 22.8 | 28.7 | 29.4 | 28.7 | 23.8 | 22.7 | 26.4 |
| Wheat, bushels | 23.5 | 26.0 | 22.8 | 24.3 | 21.7 | 23.9 | 21.9 | 24.3 |
| Soybeans, bushels | 16.2 | 12.9 | 14.5 | 16.4 | 14.2 | 15.5 | 12.6 | 15.7 |
| Livestock factors | | | | | | | | |
| Feed fed per acre | $ 23.84 | $ 37.48 | $ 24.52 | $ 28.47 | $ 17.96 | $ 21.09 | $ 15.93 | $ 15.74 |
| Returns per $100 feed fed | 164 | 154 | 152 | 147 | 152 | 157 | 151 | 152 |
| Percent of income from livestock | 68% | 75% | 73% | 67% | 64% | 63% | 64% | 45% |
| Expense factors | | | | | | | | |
| Total months of labor | 17.7 | 17.4 | 19.6 | 22.8 | 22.1 | 21.9 | 27.7 | 26.5 |
| Labor cost per crop acre | $ 28.79 | $ 24.92 | $ 21.35 | $ 20.80 | $ 16.08 | $ 18.39 | $ 14.54 | $ 13.80 |
| Power and machinery cost per crop acre | 14.97 | 20.59 | 14.05 | 13.91 | 12.09 | 13.54 | 12.10 | 12.30 |
| Land improvement cost per acre | 1.58 | 2.05 | 2.11 | 1.60 | 1.92 | 1.58 | 1.93 | 1.82 |
| Buildings cost per acre | 1.84 | 2.63 | 1.43 | 1.62 | 1.07 | 1.23 | .97 | 1.13 |
| Earnings | | | | | | | | |
| Gross earnings per acre | $ 54.16 | $ 72.21 | $ 48.08 | $ 59.29 | $ 40.59 | $ 49.90 | $ 35.62 | $ 49.91 |
| Gross expense per acre | 31.93 | 43.30 | 28.75 | 30.73 | 22.87 | 26.57 | 20.47 | 22.06 |
| Net earnings per acre | $ 22.23 | $ 28.91 | $ 19.33 | $ 28.56 | $ 17.72 | $ 23.33 | $ 15.15 | $ 27.85 |
| Rate earned on investment | 23.1% | 19.0% | 20.8% | 21.9% | 20.9% | 20.7% | 20.9% | 25.8% |
| Labor and management earnings | $3449 | $3854 | $4033 | $5423 | $4982 | $5866 | $5989 | $9542 |

TABLE 4.--FARM EARNINGS AND OTHER FACTORS RELATED TO SOURCE OF INCOME
Accounting Farms in Farming-Type Area 6, 1947

| | Source of income | | | | |
|---|---|---|---|---|---|
| | Dairy 40% + | Hogs 40% + | Grain 40% + | Grain and l.s. each 40% + | General livestock 40% + |
| cres in farm...................... | 208 | 242 | 279 | 211 | 216 |
| ate earned on investment......... | 19.2% | 21.4% | 27.1% | 24.4% | 18.7% |
| eed fed per acre to prod. l.s.... | $ 25.37 | $ 31.01 | $ 10.18 | $ 15.98 | $ 22.77 |
| eturns per $100 feed fed......... | 161 | 146 | 154 | 152 | 148 |
| umber of cows milked............. | 15.1 | 5.2 | 4.4 | 6.1 | 10.8 |
| airy returns per cow milked...... | $340 | $301 | $223 | $237 | $235 |
| umber of litters farrowed........ | 3.0 | 15.2 | 3.0 | 2.4 | 7.0 |
| umber of pigs weaned per litter.. | 6.3 | 6.1 | 6.3 | 6.5 | 6.0 |
| eturns per litter farrowed....... | $354 | $349 | $371 | $368 | $354 |

This report is primarily for use by accounting farmers. It gives them tandards for comparing their operations with those of other farmers in their area. hese standards take into consideration differences in quality of land, size of farm, ource of income, and other farm organization factors. Thus they are flexible and re adaptable to individual farms.

What to do with this report. After applying the "yardsticks" in this report to your own farm, you may find it advisable to make changes in the organization nd operation of your farming business. You may be helped by following the suggesions in "Planning the Farm Business." You can get this new publication from your ounty farm adviser.

TABLE 5.--LABOR COST AND POWER AND MACHINERY COST PER CROP ACRE FOR DIFFERENT SIZES OF FARMS AND DIFFERENT AMOUNTS OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 6, 1947

| | Feed fed per acre | | | Feed fed per acre | | |
|---|---|---|---|---|---|---|
| rop acres | Less than $15.00 | $15.00 to $29.99 | $30.00 or more | Less than $15.00 | $15.00 to $29.99 | $30.00 or more |
| | (labor cost per crop acre) | | | (power and machinery cost per crop acre) | | |
| 50- 99 | $21.00 | $25.10 | $30.80 | $14.80 | $17.40 | $19.60 |
| 00-149 | 17.30 | 20.60 | 24.60 | 11.50 | 13.70 | 16.50 |
| 50-199 | 14.00 | 18.90 | 20.50 | 11.10 | 12.60 | 13.80 |
| 00 or more | 10.50 | 13.70 | 15.00 | 10.50 | 12.30 | 13.00 |

IN 1948 BUY ONLY NEEDED CAPITAL ITEMS AND REDUCE INEFFECIENCES IN OPERATING OSTS

Cooperative Extension Work in Agriculture and Home Economics
University of Illinois College of Agriculture and the United States
Department of Agriculture cooperating. H. P. Rusk, Director.
Acts approved by Congress May 8 and June 30, 1914

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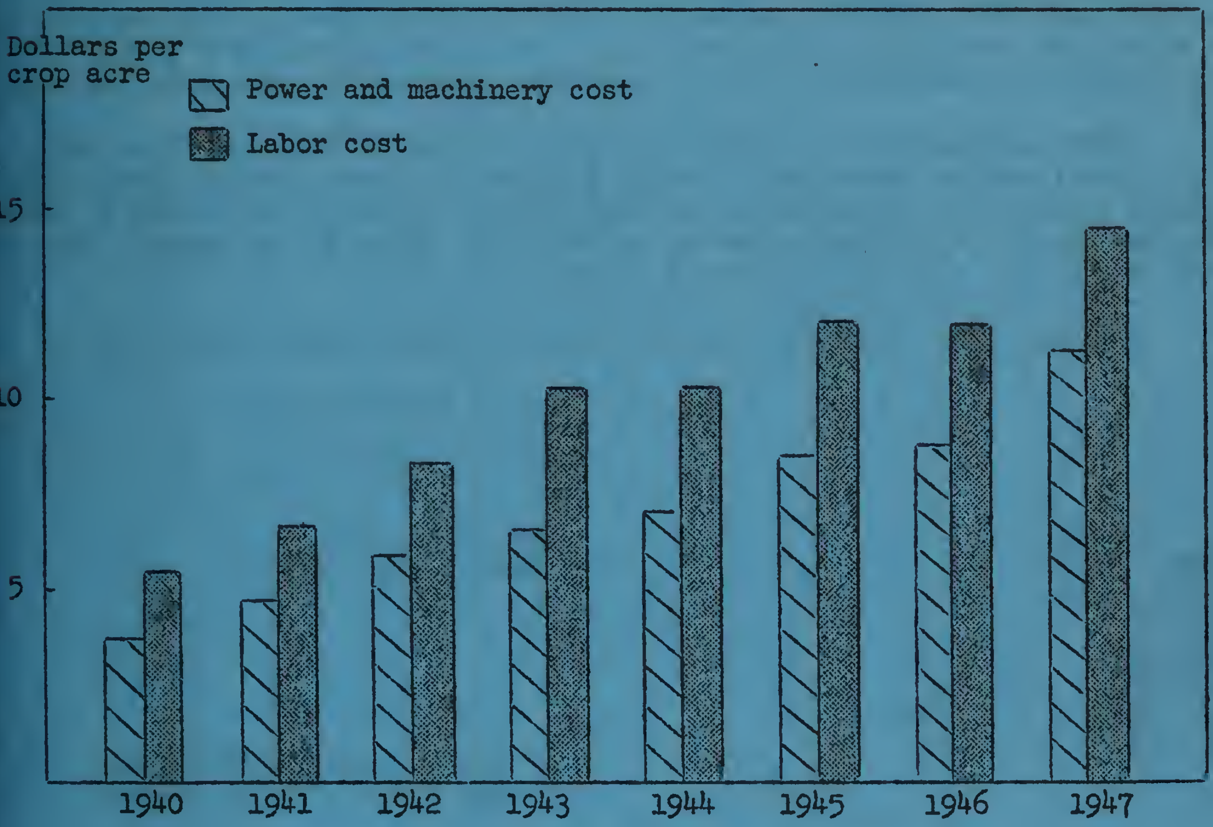
# YOUR FARM BUSINESS REPORT . . . . 1947



Machinery and Labor Cost per Crop Acre,
Farming-Type Areas 7 and 8, 1940-1947

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FARMING-TYPE AREAS 7 AND 8
South-Central and Wabash Valley

Name ______________________________

Department of Agricultural Economics, University of Illinois
College of Agriculture, Extension Service in Agriculture and Home Economics
Urbana, Illinois

UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE
AGRICULTURAL EXPERIMENT STATION
URBANA, ILLINOIS

Department of
Agricultural Economics

Dear Cooperator:

We are returning to you the summary of the farm account you have kept in cooperation with this department. For 32 years Illinois farmers have been working with us on this project. The results are measured in terms of superior management higher earnings, and a better living on thousands of Illinois farms. Although we lieve that cooperators receive the major benefits, others also profit from the results which your cooperation makes possible. We sincerely hope that you as well a your neighbors will continue to benefit from this project for many years to come.

Farm earnings have recently been high, partly because of higher price le els resulting from the recent war. During periods of rising prices, costs tend to lag behind prices of farm products. As high prices continue, costs tend to catch In the year ahead, it will be important to pay close attention to costs. This report gives special attention to farming costs.

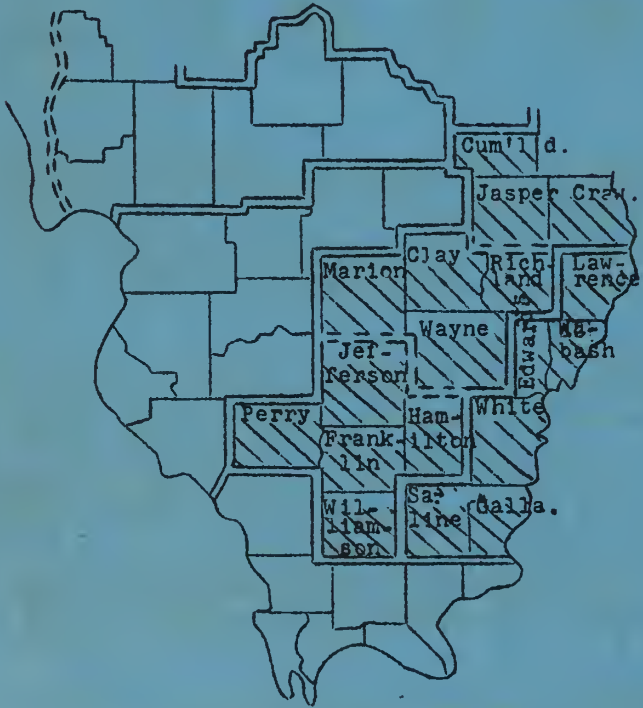
The map below shows the area to which averages in this report refer.

Very truly yours,

H. C. M. Case

H. C. M. Case
Head of Department

HCMC:pm



Farming-Type Areas 7 and 8
South-central and Wabash Valley

Counties and Farm Advisers
Cooperating in This Report

| | |
|---|---|
| Clay | G. E. Lampe |
| Crawford | D. W. Fike |
| Edwards | J. E. McCue |
| Franklin | G. J. Christenson |
| Gallatin | E. M. Lutz |
| Hamilton | F. B. Hoppin |
| Jasper | R. E. Apple |
| Jefferson | D. O. Lee |
| Lawrence | H. C. Wheeler |
| Marion | F. J. Blackburn |
| Perry | J. G. McCall |
| Richland | E. J. Barnes |
| Saline | P. T. Wilson |
| Wabash | |
| Wayne | L. B. Kimmel |
| White | T. Wright |

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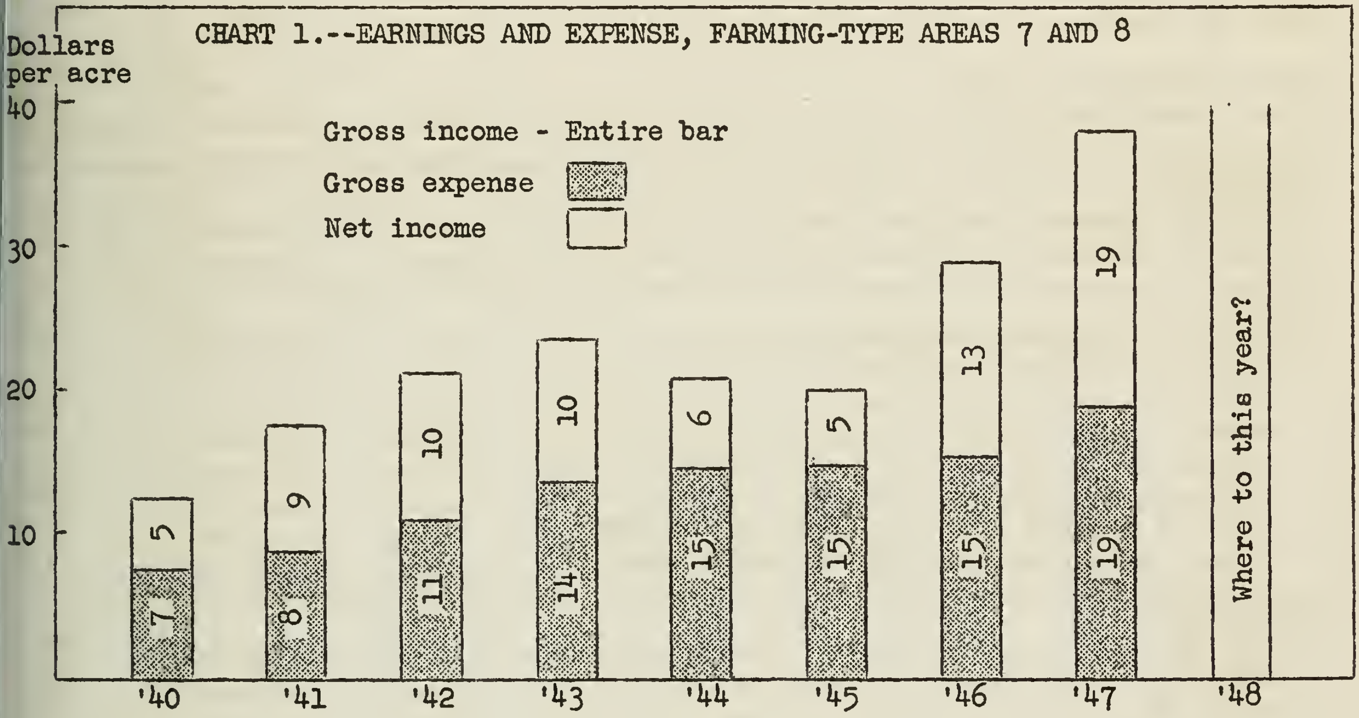
Annual Farm Business Report

# ONE HUNDRED EIGHTY-NINE FARMS IN FARMING-TYPE AREAS 7 AND 8, 1947

J. B. Cunningham, J. E. Wills, and A. G. Mueller[1]

In 1947 net farm earnings in the south-central and Wabash Valley areas eached an all-time high (Chart 1). Earnings averaged $19.11 in 1947, $13.44 in 1946, 5.40 in 1945, and $4.97 in 1940. The 1947 increase over 1946 was due principally to igher prices for farm products.



The chart above shows upward trends in per acre gross earnings, gross expenses, and net earnings since 1940. In recent years gross earnings have gone up faster than gross expenses, leaving a much wider margin of profit in 1946 and 1947 than in 1940 and 1941. We may expect a decrease in gross earnings in 1948 and another lag in expenses that will result in lower net earnings than in 1947.

Farm expenses in 1948 will probably be as high as they were in 1947. There is little chance for lower labor cost (mostly family labor) or for lower power and machinery cost, but farmers may have opporutnities to lower these costs on their individual farms. Average gross income may be lower than in 1947. Therefore, watch your expenses. Money spent in 1948 for land improvements and for necessary repairs will probably give better returns than new investments in farm real estate, new buildings, machinery, and purebred livestock, or other items for which you may have to pay highly inflated prices. Such items may have to be depreciated during periods of lower prices. IN 1948 BUY ONLY NEEDED CAPITAL ITEMS, AND REDUCE INEFFICIENCES IN FARM OPERATIONS.

---

[1] In cooperation with F. A. Stewart, supervisor of test-demonstration farms in Edwards, Gallatin, Jefferson, Marion, and Wayne counties.

TABLE 1.--FACTORS USED TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Areas 7 and 8, 1947

| Item | Your farm | Standards for your farm | Averag of 189 farms |
|---|---|---|---|
| (Those capitalized used in chart on opposite page) | | | |
| RATE EARNED ON INVESTMENT | % | 26.2 % | 26.2 |
| Labor and management earnings | $ | $ | $5090 |
| Acres in farm | | 246 | 246 |
| Acres in crops | | 143 | 143 |
| GROSS EARNINGS PER ACRE | $ | $ a/ | $ 38.1 |
| GROSS EXPENSE PER ACRE | | | 19.0 |
| Net earnings per acre | $ | $ | $ 19.1 |
| **Investments** | | | |
| Value of improved land per acre | $ | $ a/ | $ 39 |
| Total investment per acre | | | 73 |
| **Land use** | | | |
| Percent of land area tillable | | a/ | 83.0 |
| Percent of tillable land in: | | | |
| Corn | | | 21.5 |
| Oats | | | 3.2 |
| Wheat | | | 15.1 |
| Soybeans for grain | | | 14.6 |
| HAY AND PASTURE (inc. cl. & gr. seed crops) | | | 38.0 |
| Other crops (includes idle tillable land) | | | 7.6 |
| **Crop yields** | | | |
| CORN, BU. | | a/ | 36.2 |
| OATS, BU. | | | 20.9 |
| WHEAT, BU. | | | 18.3 |
| SOYBEANS, BU. | | | 14.6 |
| **Livestock factors** | | | |
| FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK | $ | $ b/ | $ 15.28 |
| RETURNS PER $100 FEED FED (pasture not included) | $ | $ | $ 145 |
| Number of cows milked | | | 7.9 d |
| DAIRY RETURNS PER COW MILKED | $ | $ | $ 214 |
| Number of litters farrowed | | | 9.0 e |
| NUMBER OF PIGS WEANED PER LITTER | | | 6.5 |
| Returns per litter farrowed | $ | $ | $ 361 |
| Number of hens | | 162 | 162 f/ |
| EGG RETURNS PER HEN | $ | $ 4.72 | $ 4.72 |
| **Expense factors** | | | |
| LABOR: COST PER CROP ACRE | $ | $ c/ | $ 14.41 |
| " Total months of labor | | a/ | 18.3 |
| POWER AND MACHINERY COST PER CROP ACRE | $ | $ c/ | $ 11.15 |
| Land improvement cost per acre | | a/ | 2.11 |
| BUILDINGS COST PER ACRE | | a/ | .85 |

a/ Table 3. Size of farm and value of improved land.
b/ Table 4. Source of income
c/ Table 5. Crop acres and amount of feed fed per acre.
d/ Farms with over $300 dairy sales.
e/ Farms buying feeder pig excluded.
f/ Farms with more than 50 hens.

## CHART 2.--USE THIS CHART TO STUDY YOUR BUSINESS
## Accounting Farms in Farming-Type Areas 7 and 8, 1947

The double line across the middle of the page represents the average for farms which are similar to your farm for the indicated factor. By drawing a line across each column at the place where your farm stands in that factor, you can compare your efficiency with that of other similar accounting farms in your area.

| | | | | Factors that affect earnings | | | | | | | | | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Crop yields | | | | Livestock | | | | | | | |
| Rate earned on investment, percent | Gross earnings per acre | Gross expenses per acre | Percent of tillable land in hay and pasture | Corn, bu. | Oats, bu. | Wheat, bu. | Soybeans, bu. | Feed fed per acre to prod. livestock | Returns per $100 feed fed prod. l.s. | Dairy returns per cow milked | No. of pigs weaned per litter | Egg returns per hen | Labor cost per crop acre | Power and machinery cost per crop acre | Buildings cost per acre |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 41.2 | | | | | | | | | | | | | | | |
| 36.2 | | | | | | | | | | | | | | | |
| 31.2 | | | | | | | | | | | | | | | |
| 26.2 | | | | | | | | | | | | | | | |
| 21.2 | | | | | | | | | | | | | | | |
| 16.2 | | | | | | | | | | | | | | | |
| 11.2 | | | | | | | | | | | | | | | |
| 6.2 | | | | | | | | | | | | | | | |
| 1.2 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 5% | $5 | $4 | 2% | 3 bu. | 3 bu. | 1 bu. | 1 bu. | $2 | $20 | $10 | .5 | .50 | $1 | $1 | $.20 |

*Each space between lines represents the value indicated at bottom of each column.

(Higher values are recorded above the center of the page and lower values below, except for expenses, which are recorded in the opposite direction.)

TABLE 2.--INVESTMENTS, INVENTORY CHANGES, CASH EXPENSES, CASH RECEIPTS, AND EARNING
Accounting Farms in Farming-Type Areas 7 and 8, 1947

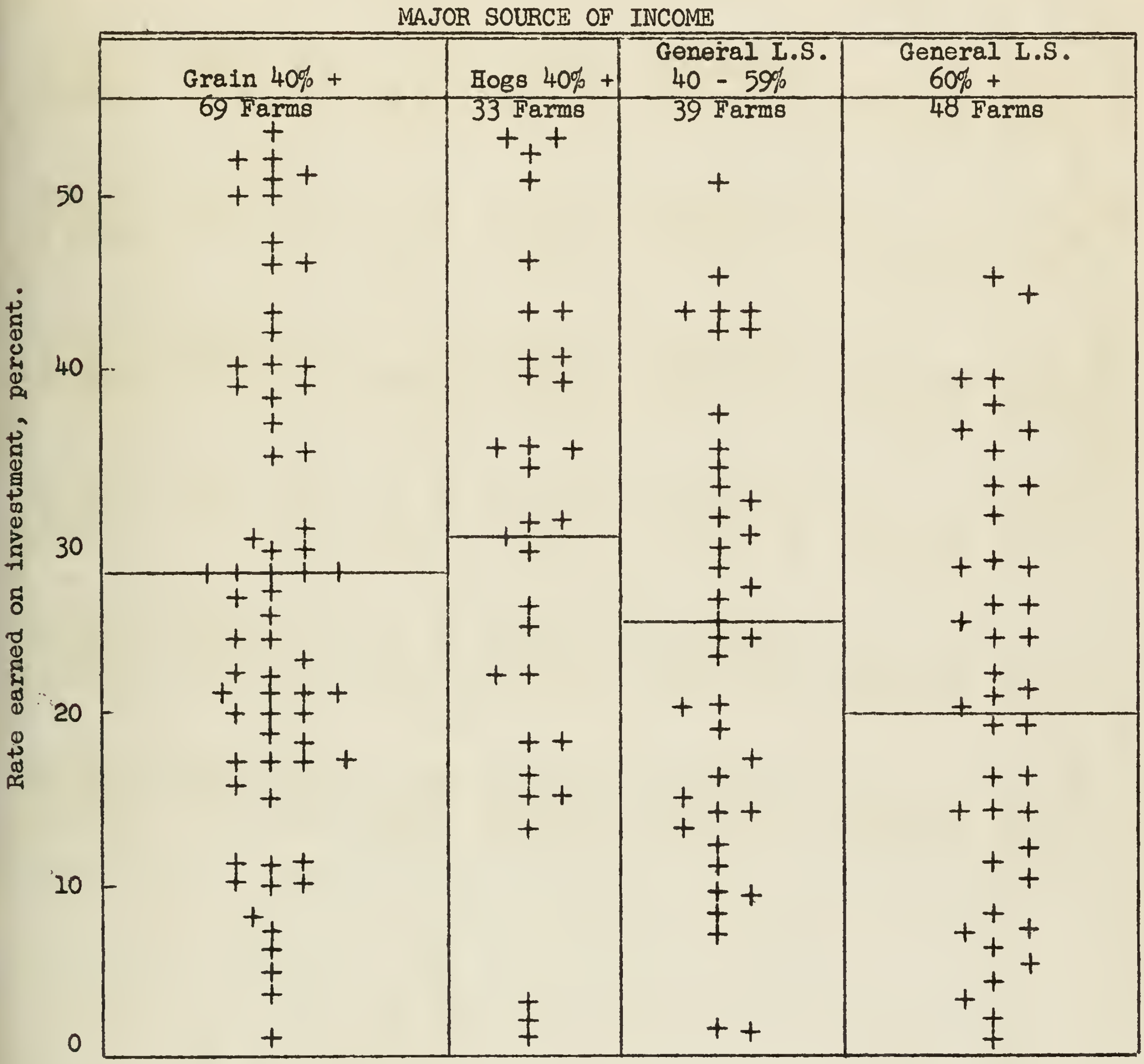
| Item | Capital investments: Your farm | Capital investments: Average of 189 farms | Change in inventory: Your farm | Change in inventory: Average of 189 farms |
|---|---|---|---|---|
| Land | $ | $ 8842 | $ -- | $ -- |
| Land improvements | | 689 | | 163 |
| Farm buildings | | 1716 | | 73 |
| Horses | | 122 | | -11 |
| Prod. l.s.: Cattle | | 1554 | | 279 |
| Hogs | | 654 | | 181 |
| Sheep | | 108 | | -2 |
| Poultry | | 173 | | 5 |
| Total productive livestock | ( ) | ( 2489 ) | ( ) | ( 463 ) |
| Feed, grain, and seeds | | 2366 | | 1128 |
| Machinery and equipment | | 1582 | | 480 |
| Automobile (farm share) | | 162 | | 129 |
| Totals | $ | $ 17968 | $ | $ 2425 |

| Item | Cash expenses: Your farm | Cash expenses: Average of 189 farms | Cash receipts: Your farm | Cash receipts: Average of 189 farms |
|---|---|---|---|---|
| Land improvements | $ | $ 688 | $ | $ 6 |
| Farm buildings | | 287 | | 5 |
| Horses | | 14 | | 12 |
| Prod. l.s.: Cattle | | 569 | | 1384 |
| Dairy sales | -- | -- | | 654 |
| Hogs | | 157 | | 2449 |
| Sheep | | 31 | | 160 |
| Poultry | | 54 | | 147 |
| Egg sales | -- | -- | | 608 |
| Total productive livestock | ( ) | ( 811 ) | ( ) | ( 5402 ) |
| Feed, grain, and seeds | | 1116 | | 3629 |
| Machinery and equipment | | 1948 | | 222 |
| Automobile (farm share) | | 351 | | 17 |
| Livestock expense | | 52 | -- | -- |
| A.A.A. receipts | -- | -- | | 88 |
| Labor | | 323 | | 23 |
| Taxes | | 233 | -- | -- |
| Miscellaneous | | 35 | | 3 |
| Totals | $ | $ 5858 | $ | $ 9407 |

| Item | Earnings: Your farm | Annual averages: 1947 | 1946 | 1945 | 1944 | 1943 |
|---|---|---|---|---|---|---|
| Cash balance | $ | $ 3549 | $ 2676 | $ 1963 | $ 2970 | $ 2786 |
| Inventory change | | 2425 | 1827 | 387 | -270 | 510 |
| Farm products used in household | | 481 | 442 | 384 | 408 | 391 |
| RECEIPTS LESS EXPENSE | $ | $ 6455 | $ 4945 | $ 2734 | $ 3108 | $ 3687 |
| Family labor | | 467 | 387 | 340 | 419 | 354 |
| RETURN FOR CAPITAL, LABOR & MGT. | $ | $ 5988 | $ 4558 | $ 2394 | $ 2689 | $ 3333 |
| Operator's labor | | 1284 | 1019 | 993 | 918 | 804 |
| NET EARNINGS (Return for cap.& mgt.) | $ | $ 4704 | $ 3539 | $ 1401 | $ 1771 | $ 2529 |
| RATE EARNED ON INVESTMENT | % | 26.2% | 20.0% | 12.6% | 8.77% | 13.9% |
| Interest on investment at 5 percent | $ | $ 898 | $ 884 | $ 880 | $ 1009 | $ 911 |
| LABOR AND MANAGEMENT EARNINGS | | 5090 | 3674 | 1514 | 1680 | 2422 |

## CHART 3.--YOUR EXTENSION SERVICE LADDER, 1947

What was your principal source of income? How high did your earnings go? One of the signs (+) on this chart represents your farm. The average rate earned for each group of farms is indicated by a line across the column.



Seven farms had earnings too low to go on this chart: One was a grain farm, one a hog farm and five general livestock farms.

In 1948 you can increase your farm earnings by (1) growing the kinds of crops and by keeping the kinds of livestock that produce the most profit as indicated by the AGRICULTURAL OUTLOOK; (2) getting high per acre crop yields by applying good land use, seed selection, fertilization, and cultural practices; (3) proper breeding, feeding, and management of livestock; (4) selling on the best seasonal markets; and (5) making the most efficient use of available labor, machinery, buildings, and equipment. Because of short supplies, you will need to conserve tractor fuel and oil.

IN 1948 BUY ONLY NEEDED CAPITAL ITEMS, AND REDUCE INEFFICIENCIES IN FARM OPERATIONS.

TABLE 3.--FARM EARNINGS AND OTHER FACTORS RELATED TO SIZE OF FARM AND VALUE OF IMPROVED LAND, FARMING-TYPE AREAS 7 AND 8, 1947

| | Total acres per farm | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 60 to 140 | | 141 to 220 | | 221 to 300 | | 301 or more | |
| Value of improved land | $35 or less | $36 or more | $35 or less | $36 or more | $35 or less | $36 or more | $35 or less | $36 or more |
| Item | | | | | | | | |
| Number of farms | 13 | 14 | 32 | 36 | 26 | 20 | 23 | 25 |
| Acres per farm | 116 | 119 | 183 | 181 | 253 | 259 | 413 | 386 |
| Value of improved land per acre | $ 27 | $ 53 | $ 30 | $ 54 | $ 29 | $ 49 | $ 25 | $ 48 |
| Total investment per acre | 61 | 111 | 66 | 97 | 56 | 89 | 52 | 80 |
| Percent of land tillable | 82% | 84% | 81% | 87% | 78% | 86% | 82% | 84% |
| Percent of tillable land in: | | | | | | | | |
| Corn | 21.4 | 26.6 | 20.5 | 27.9 | 19.4 | 26.5 | 14.8 | 22.0 |
| Oats | 2.2 | 6.6 | 2.6 | 2.1 | 2.4 | 5.3 | 2.9 | 3.9 |
| Wheat | 8.7 | 13.7 | 15.1 | 15.6 | 12.2 | 16.0 | 15.3 | 17.2 |
| Soybeans | 6.7 | 6.0 | 11.8 | 14.0 | 14.8 | 14.6 | 17.3 | 16.5 |
| Hay and pasture | 49.7 | 39.1 | 43.4 | 34.4 | 44.6 | 32.2 | 38.6 | 33.4 |
| Other crops | 11.3 | 6.4 | 6.6 | 6.0 | 6.6 | 5.4 | 11.1 | 7.2 |
| Crop yields | | | | | | | | |
| Corn, bushels | 38.0 | 44.7 | 34.4 | 40.1 | 31.4 | 41.3 | 28.8 | 35.7 |
| Oats, bushels | 23.7 | 24.9 | 18.8 | 23.2 | 21.8 | 20.7 | 17.1 | 21.7 |
| Wheat, bushels | 20.5 | 19.6 | 16.3 | 19.9 | 19.1 | 17.6 | 18.7 | 17.4 |
| Soybeans, bushels | 11.1 | 16.2 | 15.3 | 18.2 | 11.5 | 17.7 | 12.2 | 14.9 |
| Livestock factors | | | | | | | | |
| Feed fed per acre to prod. livestock | $ 19.99 | $ 25.04 | $ 17.69 | $ 20.26 | $ 12.97 | $ 19.23 | $ 9.36 | $ 13.30 |
| Returns per $100 feed fed | 159 | 157 | 143 | 139 | 150 | 146 | 147 | 142 |
| Percent of income from livestock | 68% | 67% | 62% | 51% | 61% | 56% | 49% | 45% |
| Expense factors | | | | | | | | |
| Total months of labor | 12.8 | 15.3 | 15.1 | 16.0 | 18.1 | 19.6 | 23.2 | 24.5 |
| Labor cost per crop acre | $ 23.93 | $ 24.14 | $ 16.39 | $ 15.27 | $ 15.45 | $ 14.50 | $ 11.96 | $ 11.42 |
| Power and machinery cost per crop acre | 16.21 | 15.28 | 12.41 | 10.78 | 11.70 | 11.07 | 10.98 | 9.30 |
| Land improvement cost per acre | 1.85 | 2.84 | 2.35 | 2.45 | 1.60 | 2.93 | 1.88 | 1.78 |
| Buildings cost per acre | 1.01 | 1.96 | .74 | .85 | .73 | 1.11 | .79 | .69 |
| Earnings | | | | | | | | |
| Gross earnings per acre | $ 42.53 | $ 53.41 | $ 37.53 | $ 50.74 | $ 29.59 | $ 47.58 | $ 26.46 | $ 38.96 |
| Gross expense per acre | 27.34 | 28.98 | 20.94 | 22.23 | 16.87 | 20.60 | 15.95 | 16.32 |
| Net earnings per acre | $ 15.19 | $ 24.43 | $ 16.59 | $ 28.51 | $ 12.72 | $ 26.98 | $ 10.51 | $ 22.64 |
| Rate earned on investment | 24.8% | 22.0% | 25.2% | 29.4% | 22.5% | 30.2% | 20.3% | 28.3% |
| Labor and management earnings | $2610 | $3543 | $3710 | $5555 | $3787 | $7144 | $4560 | $8543 |

TABLE 4.--FARM EARNINGS AND OTHER FACTORS RELATED TO SOURCE OF INCOME
Accounting Farms in Farming-Type Areas 7 and 8, 1947

| Item | Source of income<br>Grain 40% + | Hogs 40% + | General livestock 40-60 % | General livestock 60% + |
|---|---|---|---|---|
| Number of farms.................... | 69 | 33 | 39 | 48 |
| Acres in farm...................... | 279 | 216 | 243 | 223 |
| Rate earned on investment......... | 28.3% | 30.4% | 25.9% | 19.5% |
| Feed fed per acre to prod. l.s. .. | $ 10.01 | $ 26.63 | $ 14.27 | $ 18.10 |
| Returns per $100 feed fed......... | 139 | 147 | 153 | 145 |
| Number of cows milked............. | 6.7 | 6.3 | 8.0 | 9.2 |
| Dairy returns per cow milked...... | $207 | $216 | $206 | $221 |
| Number of litters farrowed........ | 7.6 | 15.9 | 6.7 | 6.2 |
| Number of pigs weaned per litter.. | 6.3 | 6.4 | 6.5 | 6.9 |
| Returns per litter farrowed....... | $327 | $366 | $364 | $391 |

This report is primarily for use by accounting farmers. It gives them standards for comparing their operations with those of other farmers in their area. These standards take into consideration differences in quality of land, size of farm, source of income, and other farm organization factors. Thus they are flexible and are adaptable to individual farms.

What to do with this report. After applying the "yardsticks" in this report to your own farm, you may find it advisable to make changes in the organization and operation of your farming business. You may be helped by following the suggestions in "Planning the Farm Business." You can get this new publication from your county farm adviser.

TABLE 5.--LABOR COST AND POWER AND MACHINERY COST PER CROP ACRE FOR DIFFERENT SIZES OF FARMS AND DIFFERENT AMOUNTS OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Areas 7 and 8, 1947

| Crop acres | Feed fed per acre<br>Less than $12.00 | $12.00 to $19.99 | $20.00 or more | Feed fed per acre<br>Less than $12.00 | $12.00 to $19.99 | $20.00 or more |
|---|---|---|---|---|---|---|
| | (labor cost per crop acre) | | | (power and machinery cost per crop acre) | | |
| 50- 99 | $18.10 | $22.00 | $23.50 | $13.10 | $14.40 | $15.70 |
| 100-149 | 12.70 | 15.20 | 17.00 | 10.50 | 11.70 | 13.10 |
| 150-199 | 11.40 | 13.20 | 15.60 | 9.80 | 11.00 | 12.00 |
| 200 or more | 9.80 | 11.90 | 14.00 | 9.20 | 10.10 | 11.40 |

IN 1948 BUY ONLY NEEDED CAPITAL ITEMS AND REDUCE INEFFICIENCIES IN FARM OPERATIONS.

## FEEDS FED AND LIVESTOCK RETURNS

### Supplement to 1947 Farm Business Reports
### Farming-Type Areas 7 and 8[1]

This supplement summarizes the feed and livestock production records of a group of farms on which detailed feed records were kept in 1947. The returns per $100 feed fed to all classes of livestock were much lower in 1947 than in 1946. High feed prices resulted in less favorable feeding ratios in 1947. The records also indicate that farmers fed more grain per unit of livestock produced although ratios were less favorable in 1947.

Table 1.--Summary of Returns per $100 Feed Fed to Different Classes of Livestock, 1947

| | Your farm | | | | | |
|---|---|---|---|---|---|---|
| Kind of livestock | Value of feed | Returns | Calculated returns at average rate | Percent of average returns | Return per $100 feed fed | Average returns per $100 feed |
| Dairy cattle | $______ | $______ | $______ | $______ | $______ | $155 |
| Other cattle | ______ | ______ | ______ | ______ | ______ | 133 |
| Hogs | ______ | ______ | ______ | ______ | ______ | 136 |
| Sheep | ______ | ______ | ______ | ______ | ______ | 92 |
| Poultry | ______ | ______ | ______ | ______ | ______ | 110 |
| All livestock | ______ | ______ | ______ | ______ | ______ | 125 |

Summary of returns. In Table 1 note the following points:

1. The values of feed fed include a charge for pasture, which is not included in the records summarized for all accounting farms in the preceding pages of this report.

2. In calculating the value of feeds fed, the following prices were used

| | | | |
|---|---|---|---|
| Corn | $1.90 per bu. | Wheat | $2.43 per bu. |
| Oats | .97 per bu. | Rye | 2.23 per bu. |
| Barley | 1.58 per bu. | Soybeans | 3.26 per bu. |

Hay and silage were priced at farm values, purchased supplements at cost price, and pasture at 12 cents per day.

3. There is a wide variation in the returns per $100 worth of feed needed to pay for the feed, labor, equipment, buildings, and other costs involved in

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[1] Based on records from 31 accounting and demonstration farms in the following counties: Marion, Jefferson, Wayne, Edwards and Gallatin.

producing different kinds of livestock. According to detailed cost studies in central Illinois, the necessary returns to cover all costs in five prewar years were poultry, $190; dairy cattle, $171; hogs, $128; and feeder cattle, $117.

Table 2.--Summary of Returns from Cattle

|  | Your farm | Average of all farms | Dairy herds | Other cattle |
|---|---|---|---|---|
| Number of farms | -- | 25 | 9 | 16 |
| Number of beef cows | ______ | 3.4 | -- | 5.2 |
| Number of dairy cows | ______ | 3.7 | 7.2 | 1.8 |
| Total cows | ______ | 7.1 | 7.2 | 7.0 |
| Number of cows milked | ______ | 3.2 | 6.2 | 1.5 |
| Total feed to cattle | ______ | $1,154 | $ 972 | $1,256 |
| Total returns from cattle | ______ | 1,613 | 1,511 | 1,671 |
| Total returns above feed costs | ______ | 459 | 539 | 415 |
| Returns per $100 feed fed | ______ | 140 | 155 | 133 |
| Returns from dairy products | ______ | $ 543 | $1,125 | $ 216 |
| Percent of returns from dairy products | ______ | 34 | 74 | 13 |
| Dairy returns per cow milked | ______ | $ 170 | $ 181 | $ 144 |
| Total amount of feed fed: |  |  |  |  |
| Corn, bushels | ______ | 246 | 199 | 272 |
| Oats, bushels | ______ | 27 | 29 | 25 |
| Other grains, bushels | ______ | -- | -- | -- |
| Milk, gallons | ______ | 13 | 37 | -- |
| Protein, mineral & mixed feeds, pounds | ______ | 1,699 | 2,431 | 1,287 |
| Hay, tons | ______ | 18.6 | 16.1 | 20.0 |
| Silage, tons | ______ | 4.1 | 6.2 | 2.9 |
| Pasture, days | ______ | 2,493 | 1,943 | 2,803 |
| Percentage of feed costs: |  |  |  |  |
| Concentrates | ______ | 51 | 50 | 52 |
| Dry roughage | ______ | 19 | 19 | 19 |
| Silage | ______ | 4 | 7 | 2 |
| Pasture | ______ | 26 | 24 | 27 |

Table 3.--Summary of Returns from Hogs

| | Your farm | Average of all farms |
|---|---|---|
| Number of farms | -- | 20 |
| Total feed to hogs | ______ | $1,644 |
| Total returns from hogs | ______ | 2,232 |
| Total returns above feed costs | ______ | 588 |
| Returns per $100 feed | ______ | 136 |
| Number of litters farrowed | ______ | 5.6 |
| Pigs weaned per litter | ______ | 6.8 |
| Cwt. pork produced | ______ | 92 |
| Feed cost per cwt. pork produced | ______ | $ 17.87 |
| Feed per cwt. pork produced | | |
| Grain, pounds | ______ | 460 |
| Protein, pounds | ______ | 51 |
| Pasture, days | ______ | 2.8 |
| Corn, bushels | ______ | 7.2 |
| Other grain, bushels | ______ | .7 |
| Average selling price per cwt. | ______ | $ 25.08 |
| Change in inventory, cwt. pork | ______ | +1.4 |

Table 4.--Summary of Returns from Sheep

| | Your farm | Average of 6 farms |
|---|---|---|
| Total feed to sheep | ______ | $ 565 |
| Total returns from sheep | ______ | 518 |
| Total returns above feed costs | ______ | -47 |
| Returns per $100 feed fed | ______ | $ 92 |
| Number of ewes | ______ | 29 |
| Total amounts of feed fed | | |
| Corn, bushels | ______ | 70 |
| Oats, bushels | ______ | 107 |
| Other grains, bushels | ______ | -- |
| Protein and mineral feeds, pounds | ______ | 197 |
| Hay, tons | ______ | 9.4 |
| Pasture, days | ______ | 1,699 |
| Percentage of feed costs | | |
| Concentrates | ______ | 43 |
| Dry roughage | ______ | 21 |
| Pasture | ______ | 36 |

Table 5.--Summary of Returns from Poultry

| | Your farm | Average of all farms | | |
|---|---|---|---|---|
| | | 1947 | 1946 | 1945 |
| Number of flocks | | 24 | 39 | 27 |
| Total feed to poultry | ______ | $ 965 | $ 710 | $ 557 |
| Total returns from poultry | ______ | 1,065 | 970 | 907 |
| Total returns above feed costs | ______ | 100 | 260 | 350 |
| Returns per $100 feed fed | ______ | $ 110 | $ 137 | $ 163 |
| Total returns from eggs | ______ | $ 869 | $ 716 | $ 751 |
| Percent of total returns from eggs | ______ | 82 | 74 | 83 |
| Average number of hens | ______ | 200 | 198 | 180 |
| Number of eggs produced per hen | ______ | 130 | 126 | 143 |
| Egg returns per hen | ______ | $ 4.34 | $ 3.62 | $ 4.17 |
| Average price received for eggs | ______ | .40 | .34 | .35 |
| Total returns per hen | ______ | $ 5.31 | 4.90 | 5.04 |
| Total feed cost per hen | ______ | 4.82 | 3.58 | 3.09 |
| Amount of feed per 100 hens | | | | |
| Corn, bushels | ______ | 126 | 89 | 107 |
| Oats, bushels | ______ | 31 | 30 | 41 |
| Wheat and barley, bushels | ______ | 12 | 27 | 25 |
| Skimmilk, gallons | ______ | 22 | 48 | 47 |
| Purchased protein, mineral, and mixed feeds, pounds | ______ | 3,703 | 3,027 | 3,618 |
| Pounds of feed per hen | | | | |
| Grain | ______ | 87 | 76 | 87 |
| Protein, mineral, and mixed feeds | ______ | 37 | 30 | 37 |
| Total | ______ | 124 | 106 | 124 |
| Egg-feed price ratio* | | 87 | 89 | 106 |
| Chicken-feed price ratio* | | 78 | 91 | 105 |

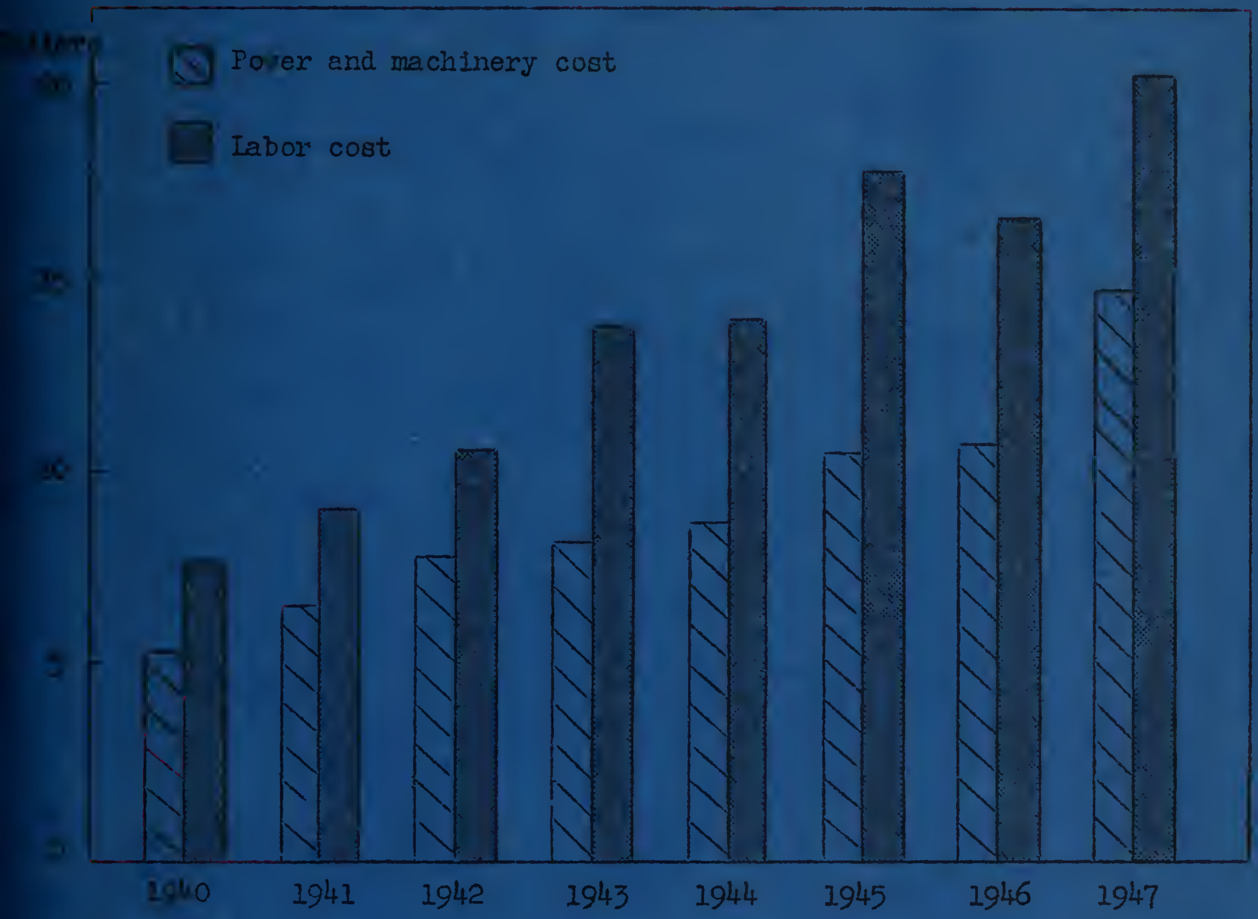
*U.S. 1936-1945 = 100

Information needed for feed records. An analysis similiar to the five tables in this supplement makes possible a detailed study of each livestock enterprise on the farm. Such an analysis can be valuable in planning future livestock operations. The information needed for these feed records, in addition to the regular Illinois Farm Account Book are: Records of home-grown feeds, including hay and pasture, fed to each class of livestock; amounts and value of purchased supplement feeds fed to each class of livestock; weights of livestock purchased, sold and inventoried; and records of quantity of milk or butterfat and eggs produced and sold

Cooperative Extension Work in Agriculture and Home Economics
University of Illinois College of Agriculture and the United States
Department of Agriculture cooperating. H. P. Rusk, Director.
Acts approved by Congress May 8 and June 30, 1914

9

# YOUR FARM BUSINESS REPORT . . . . 1947



Power and Machinery and Labor Cost
per Crop Acre, Farming-Type Area 9, 1940-47

FARMING-TYPE AREA NINE

NAME ______________________________

Department of Agricultural Economics
University of Illinois College of Agriculture
Extension Service in Agriculture and Home Economics
Urbana, Illinois

UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE
AGRICULTURAL EXPERIMENT STATION
URBANA, ILLINOIS

Department of
Agricultural Economics

Dear Cooperator:

We are returning to you the summary of the farm account you have kept in cooperation with this department. For 32 years Illinois farmers have been working with us on this project. The results are measured in terms of superior management, higher earnings, and a better living on thousands of Illinois farms. Although we believe that cooperators receive the major benefits, others also profit from the results which your cooperation makes possible. We sincerely hope that you as well as your neighbors will continue to benefit from this project for many years to come.

Farm earnings have recently been high, partly because of higher price levels resulting from the recent war. During periods of rising prices, costs tend to lag behind prices of farm products. As high prices continue, costs tend to catch up. In the year ahead, it will be important to pay close attention to costs. This report gives special attention to farming costs.

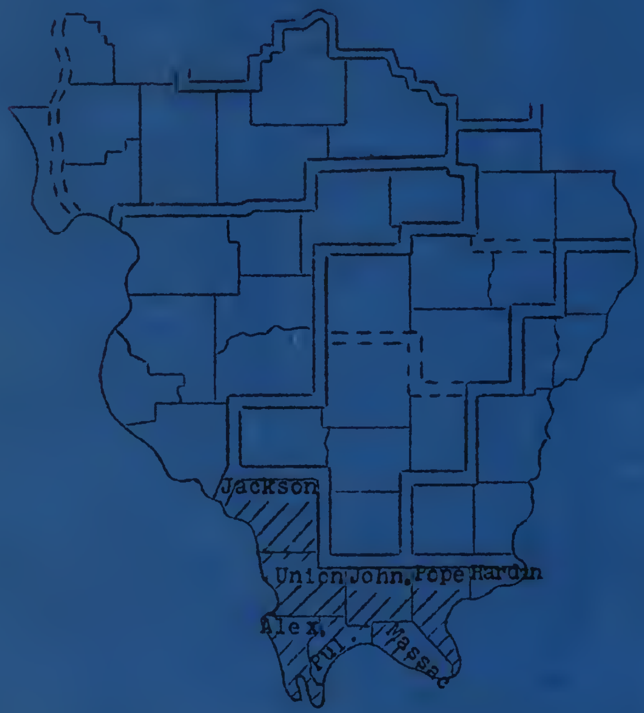
The map below shows the area to which averages in this report refer.

Very truly yours,

H. C. M. Case

H. C. M. Case
Head of Department

HCMC:N:kl



Farming-Type Area 9

Counties and farm advisers
cooperating in this report

| | |
|---|---|
| Jackson | W. C. [illegible] |
| Johnson | B. F. [illegible] |
| Pope-Hardin | G. C. [illegible] |
| Massac | Leo [illegible] |

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1947 9

Annual Farm Business Report

# FORTY FARMS IN FARMING-TYPE AREA 9, 1947

J. E. Wills, J. B. Cunningham, and A. G. Mueller[1]

In 1947 net farm earnings per acre in the southern Area 9 reached an all time high (Chart 1). They averaged $11.34 in 1947, $8.19 in 1946, $5.60 in 1945 and $2.55 in 1940. The 1947 increase over 1946 was due principally to higher prices for farm products.

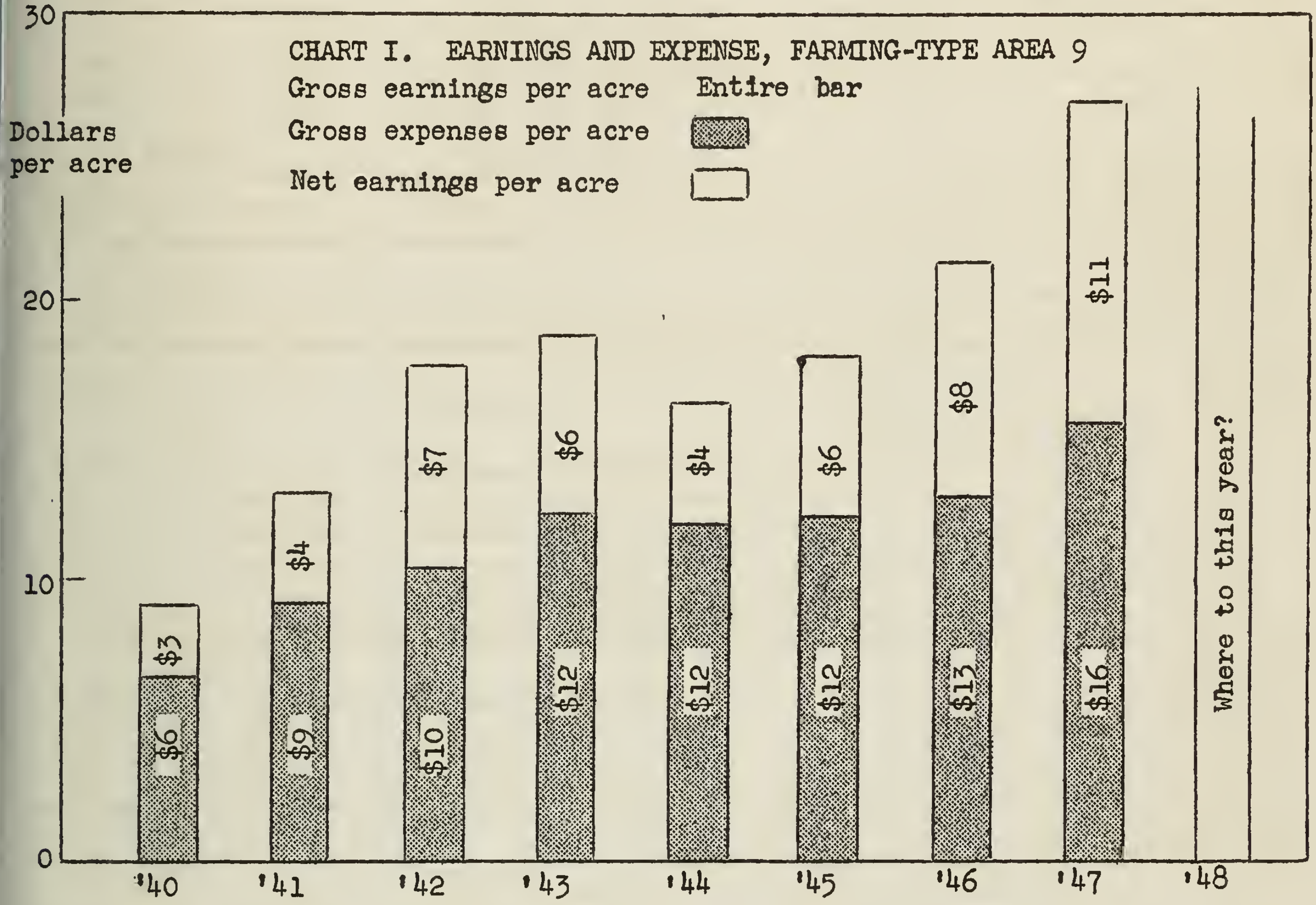
CHART I. EARNINGS AND EXPENSE, FARMING-TYPE AREA 9

The chart above shows the upward trends in per acre gross earnings, gross expenses, and net earnings since 1940. In recent years gross earnings have gone up faster than gross expenses, leaving a much wider margin of profit in 1946 and 1947 than in 1940 and 1941. We may expect a decrease in gross earnings in 1948 and another lag in expenses that will result in lower net earnings than in 1947.

Farm expenses in 1948 will probably be as high as they were in 1947. There is little chance for lower labor cost (mostly family labor) or for lower power and machinery cost, but farmers may have opportunities to lower these costs on their individual farms. Average gross income may be lower than in 1947. Therefore, watch your expenses. Money spent in 1948 for land improvements and for needed repairs will probably give better returns than new investments in farm real estate, new buildings, machinery, and purebred livestock, or other items for which you may have to pay highly inflated prices. Such items may have to be depreciated during periods of lower prices. IN 1948 BUY ONLY NEEDED CAPITAL ITEMS, AND REDUCE INEFFICIENCIES IN FARM OPERATIONS.

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[1] In cooperation with F. A. Stewart, Supervisor of test-demonstration farms in Johnson, Pope and Hardin counties.

### TABLE 1.--FACTORS USED TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 9, 1947

| Item | Your farm | Standards for your farm | Average of 40 farms |
|---|---|---|---|
| (Those capitalized used in chart on opposite page) | | | |
| RATE EARNED ON INVESTMENT | % | 19.5 % | 19.5 % |
| Labor and management earnings | $ | $ a/ | $3188 |
| Acres in farm | | 248 | 248 |
| Acres in crops | | b/ | 89 |
| GROSS EARNINGS PER ACRE | $ | $ a/ | $ 26.95 |
| GROSS EXPENSE PER ACRE | | | 15.61 |
| Net earnings per acre | $ | $ | $ 11.34 |
| **Investments** | | | |
| Value of improved land per acre | $ | $ a/ | $ 36 |
| Total investment per acre | | | 58 |
| **Land use** | | | |
| Percent of land area tillable | | 65.2 | 65.2 |
| Percent of tillable land in: | | | |
| Corn | | b/ | 22.5 |
| Oats | | | 2.2 |
| Wheat | | | 5.0 |
| Soybeans for grain | | | 4.8 |
| HAY AND PASTURE (incl. cl. & gr. seed crops) | | | 61.6 |
| Other crops (includes idle tillable land) | | | 3.9 |
| **Crop yields** | | | |
| CORN, BU | | 34.1 | 34.1 |
| OATS, BU | | 15.0 | 15.0 |
| WHEAT, BU | | 18.8 | 18.8 |
| SOYBEANS, BU | | 12.3 | 12.3 |
| **Livestock factors** | | | |
| FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK | $ | $ 11.98 | $ 11.98 |
| RETURNS PER $100 FEED FED(pasture not included) | $ | $ 161 | $ 161 |
| Number of cows milked | | 9.0 | 9.0 d/ |
| DAIRY RETURNS PER COW MILKED | $ | $ 221 | $ 221 |
| Number of litters farrowed | | 7 | 7 e/ |
| NUMBER OF PIGS WEANED PER LITTER | | 5.9 | 5.9 |
| Returns per litter farrowed | $ | $ 284 | $ 284 |
| Number of hens | | 138 | 138 f/ |
| EGG RETURNS PER HEN | $ | $ 3.88 | $ 3.88 |
| **Expense factors** | | | |
| LABOR: COST PER CROP ACRE | $ | $ a/ | $ 20.25 |
| " Total months of labor | | | 16.8 |
| POWER AND MACHINERY COST PER CROP ACRE | $ | $ | $ 14.68 |
| Land improvement cost per acre | | | .80 |
| BUILDINGS COST PER ACRE | | | .69 |

a/ Table 4, earnings, investments, and expenses.
b/ Table 3, land use.
c/ Table 5, livestock factors.
d/ Farms with over $299 dairy sales.
e/ Farms buying feeder pigs excluded.
f/ Farms with more than 49 hens.

## USE THIS CHART TO STUDY YOUR BUSINESS
### Accounting Farms in Farming-Type Area 9, 1947

The double line across the middle of the page represents the average for farms which are similar to your farm for the indicated factor. By drawing a line across each column at the place where your farm stands in that factor, you can compare your efficiency with that of other similar accounting farms in your area.

| | | | Factors that affect earnings | | | | | | | | | | Factors that affect expenses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Crop yields | | | | Livestock | | | | | | | |
| Rate earned on investment, percent | Gross earnings per acre | Gross expenses per acre | Percent of tillable land in hay and pasture | Corn, bu. | Oats, bu. | Wheat, bu. | Soybeans, bu. | Feed fed per acre to prod. livestock | Returns per $100 feed fed prod. l.s. | Dairy returns per cow milked | No. of pigs weaned per litter | Egg returns per hen | Labor cost per crop acre | Power and machinery cost per crop acre | Buildings cost per acre |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 31.5 | | | | | | | | | | | | | | | |
| 27.5 | | | | | | | | | | | | | | | |
| 23.5 | | | | | | | | | | | | | | | |
| 19.5 | | | | | | | | | | | | | | | |
| 15.5 | | | | | | | | | | | | | | | |
| 11.5 | | | | | | | | | | | | | | | |
| 7.5 | | | | | | | | | | | | | | | |
| 3.5 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 4% | $4 | $3 | 3% | 2 bu. | 2 bu. | 2 bu. | 2 bu. | $2 | $20 | $10 | .5 | .50 | $1 | $1 | $.20 |

*Each space between lines represents the value indicated at bottom of each column.

(Higher values are recorded above the center of the page and lower values below, except for expenses, which are recorded in the opposite direction.)

TABLE 2.--INVESTMENTS, INVENTORY CHANGES, CASH EXPENSES, CASH RECEIPTS, AND EARNINGS
Accounting Farms in Farming-Type Area 9, 1947

| Item | Capital investments |  | Change in inventory |  |
|---|---|---|---|---|
|  | Your farm | Average of 40 farms | Your farm | Average of 40 farms |
| Land | $ | $ 6947 | $ -- | $ -- |
| Land improvements |  | 351 |  | 136 |
| Farm buildings |  | 1494 |  | -19 |
| Horses |  | 244 |  | -25 |
| Prod. l.s.: Cattle |  | 1915 |  | 357 |
| Hogs |  | 626 |  | 286 |
| Sheep |  | 76 |  | 3 |
| Poultry |  | 132 |  | 4 |
| Total productive livestock | ( ) | ( 2749 ) | ( ) | ( 650 ) |
| Feed, grain, and seeds |  | 1594 |  | 770 |
| Machinery and equipment |  | 948 |  | 368 |
| Automobile (farm share) |  | 104 |  | 14 |
| Totals | $ | $ 14431 | $ | $ 1894 |

| Item | Cash expenses |  | Cash receipts |  |
|---|---|---|---|---|
|  | Your farm | Average of 40 farms | Your farm | Average of 40 farms |
| Land improvements | $ | $ 335 | $ | $ -- |
| Farm buildings |  | 152 |  | -- |
| Horses |  | 51 |  | 84 |
| Prod. l.s.: Cattle |  | 582 |  | 1541 |
| Dairy sales | -- | -- |  | 870 |
| Hogs |  | 351 |  | 1762 |
| Sheep |  | 22 |  | 127 |
| Poultry |  | 39 |  | 71 |
| Egg sales | -- | -- |  | 384 |
| Total productive livestock | ( ) | ( 994 ) | ( ) | ( 4755 ) |
| Feed, grain, and seeds |  | 946 |  | 1632 |
| Machinery and equipment |  | 1468 |  | 47 |
| Automobile (farm share) |  | 140 |  | 31 |
| Livestock expense |  | 42 | -- | -- |
| A.A.A. receipts | -- | -- |  | 80 |
| Labor |  | 337 |  | 11 |
| Taxes |  | 199 | -- | -- |
| Miscellaneous |  | 22 |  | 4 |
| Totals | $ | $ 4686 | $ | $ 6644 |

| Item | Earnings |  |  |  |  |  |
|---|---|---|---|---|---|---|
|  | Your farm | Annual averages |  |  |  |  |
|  |  | 1947 | 1946 | 1945 | 1944 | 1943 |
| Cash balance | $ | $ 1958 | $ 1282 | $ 1729 | $ 1634 | $ 2361 |
| Inventory change |  | 1894 | 1382 | 528 | 1192 | 272 |
| Farm products used in household |  | 438 | 427 | 404 | 409 | 404 |
| RECEIPTS LESS EXPENSE | $ | $ 4290 | $ 3091 | $ 2661 | $ 2235 | $ 3037 |
| Family labor |  | 380 | 277 | 363 | 347 | 366 |
| RETURN FOR CAPITAL, LABOR & MGT | $ | $ 3910 | $ 2814 | $ 2298 | $ 1888 | $ 2671 |
| Operator's labor |  | 1100 | 882 | 968 | 777 | 757 |
| NET EARNINGS (Return for cap.& mgt.) | $ | $ 2810 | $ 1932 | $ 1330 | $ 1111 | $ 1914 |
| RATE EARNED ON INVESTMENT | % | 19.5% | 15.0% | 10.3% | 7.5% | 12.8% |
| Interest on investment at 5 percent | $ | $ 772 | $ 644 | $ 645 | $ 743 | $ 750 |
| LABOR AND MANAGEMENT EARNINGS |  | 3188 | 2170 | 1653 | 1145 | 1921 |

Land use. In Area 9, some farms have many acres of bottomland, and produce relatively large acreages of corn and other grains. Other farms have little land suited to grain production and are used almost entirely for pasture and hay. These differences are clearly indicated by the percentage of tillable land in hay and pasture. The 40 accounting farms were divided into three groups according to the percent of tillable land in hay and pasture, and this grouping furnishes many of the standards to which your farm should be compared (Table 3, 4 and 5).

Sixteen of the 40 farms had less than 50 percent of their land in hay and pasture in 1947. Many of these farms, with relatively large acreages of grain crops, are in Jackson County. Eleven farms with from 50 to 74.9 percent of their tillable land in hay and pasture are rather evenly distributed throughout the different counties. The other 13 farms, with more than 75 percent of their land in hay and pasture, are all in Johnson, Pope and Hardin counties. Three of these 13 farms grew no corn, and nine grew no small grains. On these "grassland" farms improving pastures and increasing hay yields are the important land-use problems.

TABLE 3.--LAND USE ON FARMS GROUPED ACCORDING TO PERCENT
OF TILLABLE LAND IN HAY AND PASTURE
Accounting Farms in Farming-Type Area 9, 1947

| | Percent of tillable land in hay and pasture | | |
|---|---|---|---|
| Item | Less than 50% | 50 to 74.9% | 75% or more |
| Number of farms | 16 | 11 | 13 |
| Acres per farm | | | |
| Corn | 50.4 | 41.1 | 15.1 |
| Oats | 7.2 | 1.9 | .6 |
| Wheat | 13.9 | 7.3 | 1.7 |
| Soybeans | 15.6 | 5.5 | -- |
| Hay | 18.3 | 27.1 | 52.7 |
| Tillable land in pasture | 35.9 | 68.2 | 106.2 |
| Other crops (including idle tillable land) | 11.8 | 5.3 | .2 |
| Total tillable land | 153.1 | 156.4 | 176.5 |
| Non-tillable pasture | 28.0 | 19.8 | 21.7 |
| Woods not pastured | 40.6 | 85.8 | 44.2 |
| Farmstead and other land | 6.5 | 9.2 | 10.0 |
| Total acres | 228.2 | 271.2 | 252.4 |
| Acres in crops | 108.1 | 84.8 | 70.3 |
| Percent of land area tillable | 67.1 | 57.7 | 69.9 |
| Percent of tillable land in | | | |
| Corn | 32.9 | 26.3 | 8.5 |
| Oats | 4.7 | 1.2 | .3 |
| Wheat | 9.1 | 4.7 | 1.0 |
| Soybeans for grain | 10.2 | 3.5 | -- |
| Hay and pasture | 35.4 | 60.9 | 90.0 |
| Other crops (including idle tillable land) | 7.7 | 4.0 | .2 |

Earnings, investments, and expenses. Net earnings per acre averaged $17.2 on the farms with less than 50 percent of their tillable land in hay and pasture, $9.55 on the middle group of farms, and $6.35 on the grassland farms with over 75 percent of their tillable land in hay and pasture (Table 5). This does not mean that the grassland farms should be farmed in the same way as the farms with land suited to grain production.

In comparing the earnings of the 16 farms with the lowest percent of hay and pasture with earnings of the 13 grassland farms a number of differences should be noted. First, most of the 16 farms were located in Jackson County where they had a better market for dairy products. Second, the 16 farms not only produced more feed grains, but they also purchased more feed. Third, the grassland farms had lower investments in operating capital and in improvements. This is shown by the difference between total investment per acre and value of all land per acre.

These data (in Tables 3, 4, and 5) emphasize the great needs on many farms for (1) an increased production per acre of pasture and hay and (2) more efficient utilization of roughages through cattle and sheep; also that there are wide variations in land from farm to farm and that all land should not be farmed in the same way. As a guide to the solution of these problems the farms of this area have the Dixon Springs Experiment Station in Pope County. They also have demonstrations carried on in cooperation with the Tennessee Valley Authority.

TABLE 4.--EARNINGS, INVESTMENTS, AND EXPENSES ON FARMS GROUPED
ACCORDING TO PERCENT OF TILLABLE LAND IN HAY AND PASTURE
Accounting Farms in Farming-Type Area 9, 1947

| | Percent of tillable land in hay and pasture | | |
|---|---|---|---|
| Item | Less than 50% | 50 to 74.9% | 75% or more |
| Number of farms | 16 | 11 | 13 |
| Rate earned on investment | 23.4% | 18.1% | 13.8% |
| Labor and management earnings | $4408 | $2854 | $1972 |
| Gross earnings per acre | $ 38.83 | $ 22.82 | $ 17.47 |
| Gross expense per acre | 21.55 | 13.27 | 11.12 |
| Net earnings per acre | $ 17.28 | $ 9.55 | $ 6.35 |
| Investments | | | |
| Value of improved land per acre | $ 42 | $ 37 | $ 30 |
| Value of all land per acre | 33 | 26 | 24 |
| Total investment per acre | $ 74 | $ 53 | $ 46 |
| Expense factors | | | |
| Labor: Cost per crop acre | $ 20.84 | $ 19.66 | $ 19.67 |
| Total months of labor | 20.6 | 15.7 | 13.0 |
| Power and machinery cost per crop acre | $ 15.88 | $ 16.85 | $ 10.12 |
| Land improvement cost per acre | 1.17 | .47 | .70 |
| Buildings cost per acre | .99 | .56 | .49 |

Livestock production. On most of the 40 farms, livestock was more important than crops as a source of income in 1947 (Table 5). On farms with the lowest percentage of land in hay and pasture hogs and dairy cattle were the main livestock enterprises. Farms with most of their tillable land in hay and pasture were mainly beef cattle farms with breeding herds.

As a group, the 13 grassland farms did not have enough livestock to use all of their roughage in 1947. Six of the 13 farms sold hay during the year. For these 13 farms hay sales averaged $123 per farm, out of a total of $617 from sales of all crops. This indicates the need for increased attention to efficient utilization of roughages on these farms.

Since most accounting farms had no pasture records, the value of pasture was not included in feeds fed. Thus for grassland farms the value of feed fed per cow to productive livestock was unduely low and the returns per $100 feed fed were excessively high.

TABLE 5.--LIVESTOCK FACTORS ON FARMS GROUPED ACCORDING TO
PERCENT OF TILLABLE LAND IN HAY AND PASTURE
Accounting Farms in Farming-Type Area 9, 1947

| Item | Percent of tillable land in hay and pasture<br>Less than 50% | <br>50 to 74.9% | <br>75% or more |
|---|---|---|---|
| Number of farms | 16 | 11 | 13 |
| | | | |
| Percent of gross income from: | | | |
| Cattle | 15% | 18% | 33% |
| Dairy sales | 16 | 8 | 12 |
| Hogs | 28 | 20 | 26 |
| (All productive livestock) | (67) | (57) | (75) |
| Feed, grain, and seeds | 26 | 34 | 13 |
| Farm products used in household | 5 | 6 | 10 |
| | | | |
| Livestock numbers | | | |
| Beef cows | 3.6 | 5.9 | 11.4 |
| Dairy cows | 6.2 | 4.1 | 4.0 |
| Total cows | 9.8 | 10.0 | 15.4 |
| Litters of pigs farrowed | 8.0 | 3.5 | 3.1 |
| Average number of hens | 150 | 108 | 53 |

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